

# **Seagate Pretrial Exhibit B REDACTED**

## Civil Action No. 16-CV-538-CB

Defendants' Trial Exhibit List

DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0001	10-31-2006 David N. Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [02-26-2018 Deposition of David Lambeth, Ex. 3]		
DX0002	06-19-2001 Lambeth, Highly Oriented Magnetic Thin Films, Recording Media, Transducers, Devices Made Therefrom and Methods of Making, U.S. Patent 6,248,416 B1 (filed 11/10/1997) (issued 06/19/2001) [02-27-2018 Deposition of David Lambeth, Ex. 78]		
DX0003	01-10-1992 CMS Data Storage Systems Center Associates Agreement	SEA03350378	SEA03350384
DX0004	10-01-1997 CMU DSSC Associates Agreement with Seagate [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 7]	SEA02238164	SEA02238170
DX0005	06-26-2001 CMU DSSC Associates Agreement with Seagate, effective 10/01/2000 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 8]	SEA02238171	SEA02238177
DX0006	08-25-1989 CMU Faculty Appointment for David Lambeth, as a professor of electrical and computer engineering in the Carnegie Institute of Technology, acceptance signature dated 08/25/1989 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 11]	CMU_000058	
DX0007	07-30-1985 CMU Faculty Handbook, Section V, University Policies [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 10]	CMU_002778	CMU_002786
DX0008	08-10-1998 CMU DSSC Memorandum from Mark H. Kryder (Seagate Research) to DSSC Faculty, Staff and Students, subject line: DSSC Intellectual Property, Consulting and Conflict of Interest Application Guidelines, with attachments [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 33]	SEA03141299	SEA03141304
DX0009	06-18-1999 Letter from Robert M. White to Mark Kryder, discussing issues raised at the March DSSC Associates' meeting concerning funding new IP programs, invention disclosures and membership [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 40]	SEA03141307	SEA03141314
DX0010	07-07-1999 CMU DSSC Memorandum from Robert M. White to DSSC Faculty, Staff and Students, subject line: DSSC Intellectual Property, Consulting and Conflict of Interest Guidelines, revised from 05/06/1999, with attachments [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 41]	LAMBETH-000147999	LAMBETH-000148007
DX0011	02-19-2018 Seagate's Third Amended Notice of Deposition Pursuant to Rule 30(b)(6) to Plaintiff Lambeth Magnetic Structures, LLC [02-26-2018 Deposition of David Lambeth, Ex. 1]		
DX0012	04-17-2014 David N. Lambeth Curriculum Vitae [02-26-2018 Deposition of David Lambeth, Ex. 2]	LAMBETH-000139373	LAMBETH-000139394
DX0013	09-29-2015 Plaintiff Lambeth Magnetic Structures, LLC's Responses and Objections to Defendants' First Set of Interrogatories (Nos. 1-15), Lambeth Magnetic Structures, LLC, v. Toshiba Corporation, et al., W.D. Pa., 2:14-cv-01526-CB [02-26-2018 Deposition of David Lambeth, Ex. 4]	LAMBETH-000227333	LAMBETH-000227358
DX0014	02-20-2018 Plaintiff Lambeth Magnetic Structures, LLC's Response and Objections to Defendants' Fourth Set of Interrogatories (Nos. 12-16) [02-26-2018 Deposition of David Lambeth, Ex. 5]		
DX0015	07-12-2017 Plaintiff Lambeth Magnetic Structures, LLC's Responses and Objections to Defendants' Second Set of Interrogatories (Nos. 7-10) [02-26-2018 Deposition of David Lambeth, Ex. 6]		
DX0016	03-11-2016 Declaration of David N. Lambeth in Support of Defendant's Motion to Dismiss, Headway Techs., Inc. v. Lambeth Magnetic Structures, LLC, C.D. Cal., 2:15-cv-07987-PLAx [02-26-2018 Deposition of David Lambeth, Ex. 7]		
DX0017	03-18-2014 Assignment of Patents by Lambeth Systems to Lambeth Magnetic Structures, LLC [02-26-2018 Deposition of David Lambeth, Ex. 8]	LAMBETH-000139370	LAMBETH-000139372
DX0018	02-01-2017 Plaintiff Lambeth Magnetic Structures, LLC's First Supplemental Response and Objections to Defendants' First Set of Interrogatories (Nos. 2 and 5), Lambeth v. Seagate, Feb. 1, 2017, (W.D. Pa., 2:16-cv-00538-CB) [02-26-2018 Deposition of David Lambeth, Ex. 9]		
DX0019	10-07-1999 Consultancy, Confidentiality, and Facilities Use Agreement between Lake Shore Cryotronic, Inc. and Lambeth Systems [02-26-2018 Deposition of David Lambeth, Ex. 10]	LAMBETH-000231300	LAMBETH-000231305

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0020	1999-2001 Sputter deposition record sheets relating to thin-film samples run at Lake Shore laboratories during 1999-2001 period [02-26-2018 Deposition of David Lambeth, Ex. 11]	LAMBETH-000138445	LAMBETH-000138534
DX0021	1999-2001 Sputter deposition record sheets relating to thin-film samples run at Lake Shore laboratories during 1999-2001 period [02-26-2018 Deposition of David Lambeth, Ex. 12]	LAMBETH-000138535	LAMBETH-000138584
DX0022	1999-2001 Sputter deposition record sheets relating to thin-film samples run at Lake Shore laboratories during 1999-2001 period [02-26-2018 Deposition of David Lambeth, Ex. 13]	LAMBETH-000136237	LAMBETH-000136260
DX0023	10/00/1999 – 04/00/2000 Lab notebook, David N. Lambeth (Lambeth Systems), October 1999 – April 2000 [02-26-2018 Deposition of David Lambeth, Ex. 14]	LAMBETH-000137377	LAMBETH-000137423
DX0024	01/00/2000 – 02/00/2001 Business diary/notebook, David N. Lambeth (Lambeth Systems), January 2000 – February 2001 [02-26-2018 Deposition of David Lambeth, Ex. 15]	LAMBETH-000147354	LAMBETH-000147480
DX0025	03-30-2017 License and Settlement Agreement dated March 30, 2017, between Lambeth Magnetic Structures, LLC, David N. Lambeth and TDK Corporation [02-26-2018 Deposition of David Lambeth, Ex. 16]	LAMBETH-000222078	LAMBETH-000222098
DX0026	09-23-2019 License and Settlement Agreement dated September 23, 2019, between Lambeth Magnetic Structures, LLC, David N. Lambeth and Western Digital		
DX0027	02-22-2018 Plaintiff Lambeth Magnetic Structures, LLC's Objections to Seagate's Second Amended Notice of Deposition Pursuant to Rule 30(b)(6) [02-26-2018 Deposition of David Lambeth, Ex. 17]		
DX0028	10-05-2000 Lake Shore Cryotronics, Inc., Vibrating Sample Magnetometer (VMS), Profile Execution Log, Profile Name P503d-150[+3; data collected on LC0909-5LC sample [02-26-2018 Deposition of David Lambeth, Ex. 18]	LAMBETH-000137826	LAMBETH-000137833
DX0029	10-04-2000 Lake Shore Cryotronics, Inc., Vibrating Sample Magnetometer (VMS), Profile Execution Log, Profile Name PE503_+90+9+0-9; data collected on LS0909-6LC sample [02-26-2018 Deposition of David Lambeth, Ex. 19]	LAMBETH-000137781	LAMBETH-000137805
DX0030	10-05-2000 Lake Shore Cryotronics, Inc., Vibrating Sample Magnetometer (VMS), Profile Execution Log, Profile Name P503d_200_11dep_s&c@90+9+0+3; data collected on LS0909-6LC [02-26-2018 Deposition of David Lambeth, Ex. 20]	LAMBETH-000137850	LAMBETH-000137859
DX0031	04-26-2001 Lake Shore Cryotronics, Inc., Vibrating Sample Magnetometer (VMS), Profile Execution Log, Profile Name P190-5deg_MH250_50x10sen; data collected on LS1425_2cx [02-26-2018 Deposition of David Lambeth, Ex. 21]	LAMBETH-000136627	LAMBETH-000136642
DX0032	01-18-1989 Letter from Stephen W. Director (Whitaker Professor and Head, Department of Electrical and Computer Engineering, Carnegie Mellon University) to David Lambeth, copied to P. P. Christiano (Dean, CIT) and A.G. Jordan (Provost), offering appointment as full professor with tenure of Electrical and Computer Engineering at Carnegie Mellon. [02-27-2018 Deposition of David Lambeth, Ex. 22]	CMU_000014	CMU_000015
DX0033	08-25-1989 CMU Faculty Appointment for David Lambeth, as a professor of electrical and computer engineering in the Carnegie Institute of Technology, acceptance signature dated 08/25/1989 [02-27-2018 Deposition of David Lambeth, Ex. 23]	CMU_000058	
DX0034	07-30-1985 CMU Faculty Handbook, Section V, University Policies [02-27-2018 Deposition of David Lambeth, Ex. 24]	CMU_002778	CMU-002786
DX0035	03/02/1999 – 03/03/1999 NSF (National Science Foundation) Engineering Research Center in Data Storage Systems, Carnegie Mellon University, NSF Site Visit Report, March 2-3, 1999 [02-27-2018 Deposition of David Lambeth, Ex. 25]	LAMBETH-000147861	LAMBETH-000147868
DX0036	1996-1997 CMU DSSC Membership Agreements file documenting DSSC sponsor as of 1997 [02-27-2018 Deposition of David Lambeth, Ex. 26]	CMU1_004190	CMU1-004225
DX0037	10-02-1996 DSSC Associate Member Advisory Board Meeting Minutes [02-27-2018 Deposition of David Lambeth, Ex. 27]	CMU1_004250	
DX0038	12-01-1994 Feng, et al., Formation of crystallographic texture in rf sputter-deposited Cr thin films, J. Appl. Phys, 76:11, 7311-16 (Dec. 1, 1994) [02-27-2018 Deposition of David Lambeth, Ex. 28]	LAMBETH-000001927	LAMBETH-000001932
DX0039	00/00/1998 Lambeth, et al., Magnetic Media Performance: Control Methods for Crystalline Texture and Orientation, Mat. Res. Soc. Symp. Proc., Vol. 517, 181-92 (1998) [02-27-2018 Deposition of David Lambeth, Ex. 29]	LAMBETH-000001863	LAMBETH-000001874

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0040	00/00/1999 Zou, et al., Crystalline Texture of CoCrPt Films on CrMn/NiAl and Cr/NiAl Underlayer Structures, Mat. Res. Soc., Symp. Proc., Col. 562, 277-82 (1999) [02-27-2018 Deposition of David Lambeth, Ex. 30]	SEA00001694	SEA00001699
DX0041	04-15-1999 Zangari, et al., Structure and magnetic properties of SmCo thin films on Cr/Ag/Si templates, Journal of Applied Physics, 85:8, 5759-62 (Apr. 15, 1999) [02-27-2018 Deposition of David Lambeth, Ex. 31]	SEA00001684	SEA00001687
DX0042	04-15-1999 Laughlin, et al., Texture evolution in CoCrPtTa/Cr/NiAl magnetic recording media, Journal of Applied Physics, 85:8, 4295-97 (Apr. 15, 1999) [02-27-2018 Deposition of David Lambeth, Ex. 32]	LAMBETH-000001159	LAMBETH-000001161
DX0043	09/00/1999 Gong, et al., Epitaxial Growth of Quad-Crystal Co-Alloy Magnetic Recording Media, IEEE Transactions on Magnetics, 35:5, 2676-78 (Sept. 1999) [02-27-2018 Deposition of David Lambeth, Ex. 33]	LAMBETH-000001838	LAMBETH-000001840
DX0044	12-31-1996 David Lambeth CMU Faculty Report for 01/01/1996 – 12/31/1996 [02-27-2018 Deposition of David Lambeth, Ex. 34]	LAMBETH-000142351	LAMBETH-000142358
DX0045	12-31-1997 David Lambeth CMU Faculty Report for 01/01/1997 – 12/31/1997 [02-27-2018 Deposition of David Lambeth, Ex. 35]	LAMBETH-000142359	LAMBETH-000142370
DX0046	12-31-1998 David Lambeth CMU Faculty Report for 01/01/1998 – 12/31/1998 [02-27-2018 Deposition of David Lambeth, Ex. 36]	LAMBETH-000140985	LAMBETH-000140990
DX0047	00/00/1997 Memorandum from David Lambeth to Marian S. Kovalchik, copied to R.M. White and A.D. Rollett, subject line: Re: 1997 Seagate Research Grant – CMU Account # 1-32444 [Lambeth's Seagate account]; discusses renewal of Seagate Research Grant [02-27-2018 Deposition of David Lambeth, Ex. 37]	LAMBETH-000211586	
DX0048	05-17-1999 Memorandum from David Lambeth to Marian S. Kovalchik, subject line: Seagate – Non-Overhead Grant Support, CMU Account #1-32444, discussed Seagate unrestricted grant for general research activities in magnetic recording materials [02-27-2018 Deposition of David Lambeth, Ex. 38]	LAMBETH-000147880	
DX0049	08-10-1998 CMU DSSC Memorandum from Mark H. Kryder (Seagate Research) to DSSC Faculty, Staff and Students, subject line: DSSC Intellectual Property, Consulting and Conflict of Interest Application Guidelines, with attachments [02-27-2018 Deposition of David Lambeth, Ex. 39]	SEA03141299	SEA03141304
DX0050	07-07-1999 CMU DSSC Memorandum from Robert M. White to DSSC Faculty, Staff and Students, subject line: DSSC Intellectual Property, Consulting and Conflict of Interest Guidelines, revised from 05/06/1999, with attachments [02-27-2018 Deposition of David Lambeth, Ex. 40]	LAMBETH-000147999	LAMBETH-000148007
DX0051	04-08-1999 CMU Memorandum from David Lambeth (Prof. of ECE and MSE) to R. M. White (ECE Head), copied to J. Anderson (CIT Dean and A.D. Rollett (MSE Head), subject line: Leave of Absence during 08/31/1999 to 09/01/2000 [02-27-2018 Deposition of David Lambeth, Ex. 41]	CMU_000010	
DX0052	08-13-1997 CMU Engineering Memorandum from R. White and J. Anderson to D. Lambeth, subject line: Feedback on Peer Review of Tenured Faculty [02-27-2018 Deposition of David Lambeth, Ex. 42]	CMU1_002931	
DX0053	08-31-1999 Memorandum from David Lambeth to Robert M. White (Director, DSSC), Pradeep K. Khosla (Department Head, Electrical & Computer Engineering (ECE)), Anthony D. Rollett (Department Head, Software Engineering Masters Program (MSE)) and John L. Anderson (Dean, College of Engineering (CIT)), subject line: Formal DSSC Resignation [02-27-2018 Deposition of David Lambeth, Ex. 43]	CMU_000004	
DX0054	08-01-1999 CMU Faculty Leave of Absence Program Application Form – Academic Year 1999-2000, completed by David Lambeth [02-27-2018 Deposition of David Lambeth, Ex. 44]	CMU_000007	CMU_000008
DX0055	09-07-1999 Memorandum, with attachments, from CMU Provost Paul Christiano to CMU Professor David N. Lambeth to confirm that request for leave of absence has been approved [02-27-2018 Deposition of David Lambeth, Ex. 45]	CMU1_002613	CMU1_002618
DX0056	01-09-2000 CMU Faculty Leave of Absence Program Application Form – Academic Year 2000-2001, completed by David Lambeth [02-27-2018 Deposition of David Lambeth, Ex. 46]	LAMBETH-000140384	LAMBETH-000140385
DX0057	02-15-2000 Memorandum from CMU Provost Paul Christiano to CMU Professor David N. Lambeth to confirm that request for non-supported leave of absence has been approved [02-27-2018 Deposition of David Lambeth, Ex. 47]	CMU1_002919	

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0058	12-31-2001 David Lambeth CIT Faculty Report for 01/01/2001 – 12/31/2001 [02-27-2018 Deposition of David Lambeth, Ex. 48]	LAMBETH-000143340	LAMBETH-000143359
DX0059	12-30-2001 Email from D. Lambeth to J. Bain (CMU ECE Senior Research Scientist), copied to T. Kowalewski (Andrew CMU) and E. Towe (CMU), subject line Getting your email, DNL [02-27-2018 Deposition of David Lambeth, Ex. 49]	LAMBETH-000242907	LAMBETH-000242909
DX0060	08/29/2002 – 10/31/2006 Prosecution/file history for U.S. Patent No. 7,128,988 B2, Application No. 10/415757 [02-27-2018 Deposition of David Lambeth, Ex. 50]	LAMBETH-000000042	LAMBETH-000000475
DX0061	11-01-2000 Email from D. Lambeth to J. Wolf, subject line: XRD [02-27-2018 Deposition of David Lambeth, Ex. 51]	LAMBETH-000154506	
DX0062	11-28-2000 Email from J. Wolf to D. Lambeth, subject line: Pole Figure, attaching three documents bearing filenames 3Dphi6.doc, PolFig6.doc and zoomPF6.doc [02-27-2018 Deposition of David Lambeth, Ex. 52]	LAMBETH-000147342	LAMBETH-000147345
DX0063	11-28-2000 Email from J. Wolf to D. Lambeth, subject line: Pole Figure, attaching three documents bearing filenames 3Dphi6.doc, PolFig6.doc and zoomPF6.doc [02-27-2018 Deposition of David Lambeth, Ex. 53]	LAMBETH-000154511	LAMBETH-000154512
DX0064	05-03-2001 Email from David Lambeth to Jason G. Wolf, subject line: Pole figure measurement [02-27-2018 Deposition of David Lambeth, Ex. 54]	LAMBETH-000154516	
DX0065	05-08-2001 Email from David Lambeth to Jason G. Wolf, subject line: Measurements TBD, attaching document bearing filename PoleFig1508.txt [02-27-2018 Deposition of David Lambeth, Ex. 55]	LAMBETH-000154517	LAMBETH-000154519
DX0066	05-18-2001 Email from J. Wolf to D. Lambeth, subject line: One Pole Figure done, referencing document bearing filename LS1428-1b.doc (not attached) [02-27-2018 Deposition of David Lambeth, Ex. 56]	LAMBETH-000147553	
DX0067	03-18-2001 Email string (date range unknown), the most recent message from D. Lambeth to J. Wolf, subject line: Re: One Pole Figure done, including document bearing filename LS1428-1b.doc (which had been attached to initial email) [02-27-2018 Deposition of David Lambeth, Ex. 57]	LAMBETH-000147554	LAMBETH-000147556
DX0068	05-18-2001 Email from Jason Wolf to David Lambeth, subject line: Re: One Pole Figure done [02-27-2018 Deposition of David Lambeth, Ex. 58]	LAMBETH-000147558	
DX0069	06-01-2001 Email from D. Lambeth to J. Wolf, subject line: LS0909-06 and -05 Cu! [02-27-2018 Deposition of David Lambeth, Ex. 59]	LAMBETH-000154526	
DX0070	08-25-2001 Email from J. Wolf to D. Lambeth, subject line: 8 pole figures, attaching documents bearing filenames 09095s-09096s.doc, 14274bs-14275bs.doc, 14281bs-14282bs, 14283bs-14284bs.doc [02-27-2018 Deposition of David Lambeth, Ex. 60]	LAMBETH-000147571	LAMBETH-000147575
DX0071	08-27-2001 Email from J. Wolf to D. Lambeth, subject line: 2 more Pole Figures attaching two plots: 1425-02CX and 1425-02CY [02-27-2018 Deposition of David Lambeth, Ex. 61]	LAMBETH-000147576	LAMBETH-000147577
DX0072	08-27-2001 Email from J. Wolf to D. Lambeth, subject line: JW not at CMU [02-27-2018 Deposition of David Lambeth, Ex. 62]	LAMBETH-000147578	
DX0073	08-27-2001 Email from D. Lambeth to J. Wolf, subject line: Re: JW not at CMU, responding to and commenting on message regarding fine-step scans [02-27-2018 Deposition of David Lambeth, Ex. 63]	LAMBETH-000147579	
DX0074	08-28-2001 Email from J. Wolf to D. Lambeth, subject line: Fine scans, attaching replacement plots for 1425-02CX and 1425-02CY [02-27-2018 Deposition of David Lambeth, Ex. 64]	LAMBETH-000147580	LAMBETH-000147581
DX0075	08-29-2001 Email from J. Wolf to D. Lambeth, subject line: How's it going [02-27-2018 Deposition of David Lambeth, Ex. 65]	LAMBETH-000147582	
DX0076	08-29-2001 Email from D. Lambeth to J. Wolf, subject line Re: How's it going [02-27-2018 Deposition of David Lambeth, Ex. 66]	LAMBETH-000147583	
DX0077	08-25-2001 Email string, 08/24/2001 – 08/25/2001, the most recent message from Y. Hohokabe (Showa Denko) to D. Lambeth, copied to Y. Sasaki (Showa Denko) and H. Sakai (Showa Denko), subject line Re: Patent application to be filed on August 29, attaching two documents bearing filenames 401094USrevised010825 and SDK-OR1823 [02-27-2018 Deposition of David Lambeth, Ex. 67]	LAMBETH-000240835	LAMBETH-000240908
DX0078	08-10-2001 Email from D. Lambeth to D. turner (NOAA), copied to R. Goldfarb (Boulder NIST), subject line Lambeth System's Proposal, attaching document bearing filename NISTsoftSingleCrystal1810_1332LS [02-27-2018 Deposition of David Lambeth, Ex. 68]	LAMBETH-000149368	LAMBETH-000149372

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0079	09-10-2001 Email string, the most recent message from D. Lambeth to R. Goldfarb, subject line Re: nanomagnetodynamics [02-27-2018 Deposition of David Lambeth, Ex. 69]	LAMBETH-000149387	LAMBETH-000149388
DX0080	10-09-2000 Email string, the most recent message from D. Lambeth to P. Swinehart (Lake Shore Cryotronics), copied to L. Chapin (Lake Shore Cryotronics) and M. Swartz (Lake Shore Cryotronics), subject line Re: Your data [02-27-2018 Deposition of David Lambeth, Ex. 70]	LAMBETH-000148440	LAMBETH-000148442
DX0081	04-13-2001 Email string, the most recent message from D. Lambeth to P. Swinehart (Lake Shore Cryotronics), copied to L. Noel Chapin (Lake Shore Cryotronics), subject line Re: more on EDM [02-27-2018 Deposition of David Lambeth, Ex. 71]	LAMBETH-000147511	LAMBETH-000147512
DX0082	11-16-2006 Email from D. Lambeth to L. Lee, subject line US Patent 007128988 [02-27-2018 Deposition of David Lambeth, Ex. 72]	LAMBETH-000243008	
DX0083	12/23/2006 – 12/28/2006 Email string, the most recent message from D. Lambeth to Y. Deng (former student), subject line Re: Happy New Year [02-27-2018 Deposition of David Lambeth, Ex. 73]	LAMBETH-000243009	LAMBETH-000243010
DX0084	12/24/2008 – 01/06/2009 Email string, the most recent message from David Lambeth to Youping Deng, subject line Re[2]: Happy Holidays [02-27-2018 Deposition of David Lambeth, Ex. 74]	LAMBETH-000243091	LAMBETH-000243093
DX0085	01/06/2009 – 01/10/2009 Email string, the most recent message from David Lambeth to Sam Velu (CMU post-doctoral colleague and, at the time, employed by Western Digital in the hard disc drive area), subject line Re: keep-in touch [02-27-2018 Deposition of David Lambeth, Ex. 75]	LAMBETH-000243094	LAMBETH-000243095
DX0086	12-02-2014 White paper: Uniaxial Magnetic BCC Thin Films Resulting From Symmetry Broken Structures, Professor David N. Lambeth, Department of Electrical and Computer Engineering, Carnegie Mellon University; partial draft; written at behest of Acacia after Lambeth sold patent to them [02-27-2018 Deposition of David Lambeth, Ex. 76]	LAMBETH-000236420	LAMBETH-000236453
DX0087	12/00/2014 est. Table A: A detailed listing of the possible KS variants by Sets, Subsets, and Groups. When constrained to be of equal area there are 6 Sets, 15 Subsets, and 63 Groups possible; table headings: Variant Set Name, No. of Groups in a Subset, Variant Groups (separated by commas) in a Subset (denoted by the parenthesis), Comments; document prepared in relation to white paper at Lambeth Exhibit 76, referencing work on single crystal substrates [02-27-2018 Deposition of David Lambeth, Ex. 77]	LAMBETH-000232853	
DX0088	01-21-1997 CMU ECE Dept., DSSC Memorandum from David Lambeth to Mark Kryder, copied to J. Anderson, B. Bernt, P. Christiano, M. Cotichia, D. Laughlin, C. Porto, A. Rollett, J. Williams, R. White, subject line: Typical License Fees for Data Storage Patents [02-23-2018 Deposition of David Lambeth (WD), Ex. 1]	CMU1_002468	CMU1_002470
DX0089	08-13-1997 Letter from D. Lambeth to R. White and J. Anderson [02-23-2018 Deposition of David Lambeth (WD), Ex. 2]	CMU1_002735	
DX0090	08-10-1998 CMU DSSC Memorandum from Mark H. Kryder (Seagate Research) to DSSC Faculty, Staff and Students, subject line: DSSC Intellectual Property, Consulting and Conflict of Interest Application Guidelines, with attachments [02-23-2018 Deposition of David Lambeth (WD), Ex. 3]	CMU1_004182	CMU1_004189
DX0091	08-05-1999 Letter from D. Lambeth to R. White re: Leave of Absence during 8/31/99 to 9/1/00 [02-23-2018 Deposition of David Lambeth (WD), Ex. 4]	CMU_000009	
DX0092	01-09-2000 CMU Faculty Leave of Application Program, Application Form, Academic Year 2000 – 2001, executed by Professor David N. Lambeth, ECE Department, listing previous leave date range: 09/01/1999 – 08/31/2000 [02-23-2018 Deposition of David Lambeth (WD), Ex. 5]	LAMBETH-000140384	LAMBETH-000140385
DX0093	08-31-1999 Letter from Lambeth to Robert White et. al. re: Formal DSSC Resignation [02-23-2018 Deposition of David Lambeth (WD), Ex. 6]	CMU_000004	
DX0094	01-13-2000 Email chain [start/end date range omitted], the most recent message from David Lambeth to Cam Miller (CMU ECE), subject line: Re: [Fwd: Annual Report] [02-23-2018 Deposition of David Lambeth (WD), Ex. 7]	LAMBETH-000140350	LAMBETH-000140351
DX0095	08-29-1999 Letter to Sakai-san from D. Lambeth [02-23-2018 Deposition of David Lambeth (WD), Ex. 8]	LAMBETH-000244638	
DX0096	12-23-1999 Email D.Lambeth to Bin Lu re: Monday Meeting [02-23-2018 Deposition of David Lambeth (WD), Ex. 9]	LAMBETH-000144241	



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DX0097	08-29-2001 Provisional Application for 60/315920 "Oriented Magnetic Materials For Improved Devices" [02-23-2018 Deposition of David Lambeth (WD), Ex. 10]		
DX0098	10-31-2006 U.S. Patent No. 7,128,988 "Magnetic Material Structures, Devices and Methods" [02-23-2018 Deposition of David Lambeth (WD), Ex. 11]		
DX0099	01/2000 - 02-2001 Business diary/notebook, David N. Lambeth (Lambeth Systems), January 2000 – February 2001 [02-23-2018 Deposition of David Lambeth (WD), Ex. 12]	LAMBETH-000147354	LAMBETH-000147480
DX0100	Sputter Deposition Record Sheet LS0909-6 and LS0909-5 [02-23-2018 Deposition of David Lambeth (WD), Ex. 14]	LAMBETH-000138577	LAMBETH-000138578
DX0101	08-27-2001 Email from D. Lambeth to J. Wolf re: JW not at CMU [02-23-2018 Deposition of David Lambeth (WD), Ex. 15]	LAMBETH-000147579	
DX0102	08-29-2001 Email from D. Lambeth to J. Wolf re: How's it going? [02-23-2018 Deposition of David Lambeth (WD), Ex. 16]	LAMBETH-000147583	
DX0103	09-06-2001 Email David Lambeth to Jason Wolf and Leo Chapin re: Si orientation and attachments [02-23-2018 Deposition of David Lambeth (WD), Ex. 17]	LAMBETH-000147587	LAMBETH-000147590
DX0104	01-25-2007 Email from D. Lambeth to Tsann re Application to CMU [02-23-2018 Deposition of David Lambeth (WD), Ex. 18]	LAMBETH-000243012	LAMBETH-000243013
DX0105	02-02-2007 Email from D. Lambeth to W. Ross re: Congratulations patent 7128988 [02-23-2018 Deposition of David Lambeth (WD), Ex. 19]	LAMBETH-000243015	LAMBETH-000243016
DX0106	01-06-2009 Email David Lambeth to Youping Deng re: Happy Holidays [02-23-2018 Deposition of David Lambeth (WD), Ex. 20]	LAMBETH-000243091	LAMBETH-000243093
DX0107	David Lambeth's typed notes regarding discussion with Kaizhong Gao during InterMag 2009 Conference [02-23-2018 Deposition of David Lambeth (WD), Ex. 21]	LAMBETH-000222102	LAMBETH-000222103
DX0108	Settlement and Patent License Agreement between Lambeth Magnetic Structures, LLC, David N. Lambeth, and TDK Corporation [02-23-2018 Deposition of David Lambeth (WD), Ex. 22]	LAMBETH-000222078	LAMBETH-000222098
DX0109	08-27-2001 Email from J. Wolf to D. Lambeth re: 2 more Pole Figures [02-28-2018 Deposition of David Lambeth (WD), Ex. 23]	LAMBETH-000147576	LAMBETH-000147577
DX0110	08-28-2001 Email from J. Wolf to D. Lambeth Subject: Fine scans with attachment [02-28-2018 Deposition of David Lambeth (WD), Ex. 24]	LAMBETH-000147580	LAMBETH-000147581
DX0111	11-28-2000 Email from J. Wolf to D. Lambeth, subject line: Pole Figure, attaching three documents bearing filenames 3Dphi6.doc, PolFig6.doc and zoomPF6.doc [02-28-2018 Deposition of David Lambeth (WD), Ex. 25]	LAMBETH-000147342	LAMBETH-000147345
DX0112	04-13-2001 Email from D. Lambeth to P. Swinehart and L. Chapin re: FW: Mvsh for permalloy film 0401 S bath flat sample [02-28-2018 Deposition of David Lambeth (WD), Ex. 26]	LAMBETH-000147509	LAMBETH-000147510
DX0113	09-27-2010 Email string (09/26/2010 – 09/27/2010), the most recent message (7:29:38 PM) from David N. Lambeth to Phillip Mitchell, copied to Dooyong Lee, subject line: Re[4]: LS Slides part 3, attaching document bearing filename HDD Business & Record Head Tech Sum Draft A925_1244 [02-28-2018 Deposition of David Lambeth (WD), Ex. 27]	LAMBETH-000231213	LAMBETH-000231233
DX0114	12-10-2010 Assignment Agreement between Lambeth Systems and SBS Magnetics LLC (nka Acacia Research Corporation) [02-28-2018 Deposition of David Lambeth (WD), Ex. 28]	ARC 00622	ARC 00640
DX0115	12-16-2010 Email from Brian Rinaldi to David Lambeth and Phillip Mitchell; Subject: Lambeth-CB/SAD photos for Hitachi [02-28-2018 Deposition of David Lambeth (WD), Ex. 29]	LAMBETH-000232478	
DX0116	12-16-2010 Email string, the most recent message (4:02:40 AM) from David N. Lambeth to Phillip Mitchell, copied to Steve Wong and Brian Rinaldi, subject line: Re[2]: RE and ETA [02-28-2018 Deposition of David Lambeth (WD), Ex. 30]	LAMBETH-000232465	LAMBETH-000232466
DX0117	12-16-2010 Email from D. Lambeth to P. Mitchell Subject: gift letter [02-28-2018 Deposition of David Lambeth (WD), Ex. 31]	LAMBETH-000232494	LAMBETH-000232495
DX0118	06-28-2013 Settlement Agreement between SBS Magnetics LLC (nka Acacia Research Corp.) and Lambeth Systems [02-28-2018 Deposition of David Lambeth (WD), Ex. 32]	LAMBETH-000224014	LAMBETH-000224031
DX0119	09-29-2010 Email from J. DeMont to D. Lambeth Subject: Patent Litigation [02-28-2018 Deposition of David Lambeth (WD), Ex. 33]	LAMBETH-000244859	
DX0120	10-06-2010 Email from D. Lambeth to J. Lutzker Subject: My IP [02-28-2018 Deposition of David Lambeth (WD), Ex. 34]	LAMBETH-000240919	

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0121	10-27-2010 Mutual Non-Disclosure Agreement between J.D. Strategic Holdings and Lambeth Systems [02-28-2018 Deposition of David Lambeth (WD), Ex. 35]	LAMBETH-000243265	LAMBETH-000243266
DX0122	01-10-2009 Email string, the most recent message from David Lambeth to Sam Velu (CMU post-doctoral colleague and, at the time, employed by Western Digital in the hard disc drive area), subject line Re: keep-in touch [02-28-2018 Deposition of David Lambeth (WD), Ex. 36]	LAMBETH-000243094	LAMBETH-000243095
DX0123	05-08-2001 Text for email from D. Lambeth to J. Wolf [02-28-2018 Deposition of David Lambeth (WD), Ex. 37]	LAMBETH-000136934	LAMBETH-000136943
DX0124	03-18-2001 Email string (date range unknown), the most recent message from D. Lambeth to J. Wolf re: One Pole Figure done, referenced attachment to original message bearing filename LS1428-1b.doc not attached [02-28-2018 Deposition of David Lambeth (WD), Ex. 38]	LAMBETH-000147555	LAMBETH-000147557
DX0125	10-05-2017 Subpoena duces tecum to Jason Wolf [12-12-2017 Deposition of Jason Wolf, Ex. 1]		
DX0126	Jason Wolf's curriculum vita [12-12-2017 Deposition of Jason Wolf, Ex. 2]	WOLF-0004052	
DX0127	09-07-2009 Presentation: Textured Materials, Jason Wolf, 27-750, Texture, Microstructure & Anisotropy, A.D. (Tony) Rollett, Carnegie Mellon, Department of Materials Science and Engineering (MRSEC) [12-12-2017 Deposition of Jason Wolf, Ex. 3]		
DX0128	Carnegie Mellon University Position Description for Jason Wolf; current position: X-Ray Lab Supervisor; proposed position title: Senior X-Ray Lab Supervisor [12-12-2017 Deposition of Jason Wolf, Ex. 4]	WOLF-0004049	WOLF-0004051
DX0129	11-01-2000 Email from David Lambeth to Jason G. Wolf, subject line: XRD [12-12-2017 Deposition of Jason Wolf, Ex. 5]	LAMBETH-000154506	
DX0130	11-02-2000 Email string (11/01/2000 – 11/02/2000), the most recent message from Jason Wolf to David Lambeth, subject line: Re: XRD [12-12-2017 Deposition of Jason Wolf, Ex. 6]	LAMBETH-000147332	
DX0131	11-02-2000 Email string, the most recent message from David Lambeth to Jason Wolf, subject line: Friday XRD Measurements [12-12-2017 Deposition of Jason Wolf, Ex. 7]	LAMBETH-000147335	
DX0132	11-02-2000 Email from Jason Wolf to David Lambeth, subject line: Re: Friday XRD Measurements [12-12-2017 Deposition of Jason Wolf, Ex. 8]	LAMBETH-000147336	
DX0133	11-02-2000 Email string, the most recent message from David Lambeth to Jason Wolf, subject line: Re: Friday XRD Measurements [12-12-2017 Deposition of Jason Wolf, Ex. 9]	LAMBETH-000147337	
DX0134	11-03-2000 Email from David Lambeth to Jason Wolf, subject line: Twinning [12-12-2017 Deposition of Jason Wolf, Ex. 10]	LAMBETH-000154507	
DX0135	11-05-2000 Email from D. Lambeth to J. Wolf, subject line: more thoughts [12-12-2017 Deposition of Jason Wolf, Ex. 11]	LAMBETH-000154508	
DX0136	11-28-2000 Email from J. Wolf to D. Lambeth, subject line: Pole Figure, attaching three documents bearing filenames 3Dphi6.doc, PolFig6.doc and zoomPF6.doc [12-12-2017 Deposition of Jason Wolf, Ex. 12]	LAMBETH-000147342	LAMBETH-000147345
DX0137	11-27-2000 Image bearing header: Philips Analytical, X'Pert Texture, 11/27/00 22:00:39, Page: 1; an apparent enlargement of image at LAMBETH-000147345 bearing filename zoomPF6.doc, showing peak splitting with two peaks [12-12-2017 Deposition of Jason Wolf, Ex. 13]	WOLF-0004000	
DX0138	11-28-2000 Email from D. Lambeth to J. Wolf, subject line: data Nov. 28, 2000 [12-12-2017 Deposition of Jason Wolf, Ex. 14]	LAMBETH-000154511	LAMBETH-000154512
DX0139	11-29-2000 Email from David Lambeth to Jason G. Wolf, subject line: Omega (Theta offset) [12-12-2017 Deposition of Jason Wolf, Ex. 15]	LAMBETH-000154513	
DX0140	05-03-2001 Email from David Lambeth to Jason G. Wolf, subject line: Pole figure measurement [12-12-2017 Deposition of Jason Wolf, Ex. 16]	LAMBETH-000154516	
DX0141	05-08-2001 Email from David Lambeth to Jason G. Wolf, subject line: Measurements TBD, attaching document bearing filename PoleFig1508.txt [12-12-2017 Deposition of Jason Wolf, Ex. 17]	LAMBETH-000154517	LAMBETH-000154519



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DX0142	12-03-2000 Email string (date range unknown), the most recent message from David Lambeth to Jason Wolf, subject line: Re: Pole Figure for #5, referenced attachment to original message bearing filename Po.Fig5.doc not attached [12-12-2017 Deposition of Jason Wolf, Ex. 18]	WOLF-0000006	WOLF-0000007
DX0143	05-18-2001 Email from Jason Wolf to David Lambeth, subject line: One Pole Figure done, attaching document bearing filename LS1428-1b.doc [12-12-2017 Deposition of Jason Wolf, Ex. 19]	LAMBETH-000147553	LAMBETH-000147554
DX0144	03-18-2001 Email string (date range unknown), the most recent message from David Lambeth to Jason Wolf, subject line: Re: One Pole Figure done, referenced attachment to original message bearing filename LS1428-1b.doc not attached [12-12-2017 Deposition of Jason Wolf, Ex. 20]	LAMBETH-000147555	LAMBETH-000147557
DX0145	05-18-2001 Email from Jason Wolf to David Lambeth, subject line: Re: One Pole Figure done [12-12-2017 Deposition of Jason Wolf, Ex. 21]	LAMBETH-000147558	
DX0146	05-18-2001 Email string, the most recent message from David Lambeth to Jason G. Wolf, subject line: [Fwd: Re: One Pole Figure done] [12-12-2017 Deposition of Jason Wolf, Ex. 22]	LAMBETH-000154523	
DX0147	06-01-2001 Email from David Lambeth to Jason G. Wolf, subject line: LS0909-06 and -05 Cu! [12-12-2017 Deposition of Jason Wolf, Ex. 23]	LAMBETH-000154526	
DX0148	07-28-2001 Email from Jason G. Wolf to David Lambeth, subject line: Data [12-12-2017 Deposition of Jason Wolf, Ex. 24]	LAMBETH-000147570	
DX0149	08-25-2001 Email from Jason Wolf to David Lambeth, subject line: 8 pole figures, attaching documents bearing filenames 09095s-09096s.doc, 14274bs-14275bs.doc, 14281bs-14282bs, 14283bs-14284bs.doc [12-12-2017 Deposition of Jason Wolf, Ex. 25]	LAMBETH-000147571	LAMBETH-000147575
DX0150	07/00/2001 Handwritten notes relating to samples that appear in Wolf Dep. Ex. 25 and the associated pole figures [12-12-2017 Deposition of Jason Wolf, Ex. 26]	WOLF-0004023	
DX0151	08-27-2001 Email from Jason Wolf to David Lambeth, subject line: 2 more Pole Figures attaching two plots: 1425-02CX and 1425-02CY [12-12-2017 Deposition of Jason Wolf, Ex. 27]	LAMBETH-000147576	LAMBETH-000147577
DX0152	08-27-2001 Handwritten notes for performing a pole figure scan pertaining to for two samples identified as 1425-02CX and 1425-02CY [12-12-2017 Deposition of Jason Wolf, Ex. 28]	WOLF-0004021	WOLF-0004022
DX0153	08-27-2001 Email from Jason Wolf to David Lambeth, subject line: JW not at CMU [12-12-2017 Deposition of Jason Wolf, Ex. 29]	LAMBETH-000147578	
DX0154	08-27-2001 Email from David Lambeth to Jason Wolf, subject line: Re: JW not at CMU, responding to and commenting on message regarding fine-step scans [12-12-2017 Deposition of Jason Wolf, Ex. 30]	LAMBETH-000147579	
DX0155	08-28-2001 Email from Jason Wolf to David Lambeth, subject line: Fine scans, attaching replacement plots for 1425-02CX and 1425-02CY [12-12-2017 Deposition of Jason Wolf, Ex. 31]	LAMBETH-000147580	LAMBETH-000147581
DX0156	08-29-2001 Email from Jason Wolf to David Lambeth, subject line: How's it going [12-12-2017 Deposition of Jason Wolf, Ex. 32]	LAMBETH-000147582	
DX0157	08-29-2001 Email from David Lambeth to Jason Wolf, subject line Re: How's it going [12-12-2017 Deposition of Jason Wolf, Ex. 33]	LAMBETH-000147583	
DX0158	12-20-2000 Text of email message from Jason Wolf to David Lambeth, attaching invoice for x-ray work done 12/19/2000 as to two samples for pole figure data collection: 0909-6LC and 0909-5LC, asking whether to bill the charges to CMU account number 2058.11.1001618 [12-12-2017 Deposition of Jason Wolf, Ex. 34]	WOLF-0003966	WOLF-0003967
DX0159	01-11-1990 Intellectual Property Policy Agreement Form between Jason Wolf and Carnegie-Mellon University, effective 08/27/1985 [12-12-2017 Deposition of Jason Wolf, Ex. 35]	CMU1_003941	
DX0160	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [12-12-2017 Deposition of Jason Wolf, Ex. 36]		
DX0161	04-14-2000 Email from David Lambeth to Jason Wolf, subject line: Use the Phi Scan [12-12-2017 Deposition of Jason Wolf, Ex. 37]	LAMBETH-000154502	
DX0162	11-28-2000 Email from J. Wolf to D. Lambeth, subject line: Pole Figure [12-12-2017 Deposition of Jason Wolf, Ex. 38]	LAMBETH-000042638	LAMBETH-000042639

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0163	05-08-2001 Text for email from D. Lambeth to J. Wolf [12-12-2017 Deposition of Jason Wolf, Ex. 39]	LAMBETH-000136934	LAMBETH-000136943
DX0164	05-07-2001 Color copy of photograph produced by Western Digital after Western Digital inspection depicting six brown envelopes bearing David Lambeth's handwriting identifying center pole figure samples: 1428-1, 1428-2, 1428-3, 1428-4, 1427-5, 1427-4 [12-12-2017 Deposition of Jason Wolf, Ex. 40]	WD219028	
DX0165	Color copy of photograph produced by Western Digital after Western Digital inspection depicting eight brown envelopes bearing David Lambeth's handwriting identifying samples: LS0909-6, LS0909-5, LS0909-1, LS0909-7, LS0909-4, LS0909-3, LS0909-2, LS0909-8 [12-12-2017 Deposition of Jason Wolf, Ex. 41]	WD219021	
DX0166	Color copy of photograph produced by Western Digital after Western Digital inspection depicting samples: LS0909-6a, LS0909-6c, LS0909-6d [12-12-2017 Deposition of Jason Wolf, Ex. 42]	WD219006	
DX0167	Color copy of photograph produced by Western Digital after Western Digital inspection depicting three brown envelopes bearing David Lambeth's handwriting identifying samples: 1425-01 abcd (referencing 1425-01CX and 1425-1CY), 1425-02 abcd (referencing 1425-02CX and 1425-02CY), 1425-03 b,c,d [12-12-2017 Deposition of Jason Wolf, Ex. 43]	WD219012	
DX0168	Color copy of photograph produced by Western Digital after Western Digital inspection depicting samples: 1425-02a, 1425-02b, 1425-02d [12-12-2017 Deposition of Jason Wolf, Ex. 44]	WD218985	
DX0169	02-08-2018 Subpoena to Testify at a Deposition in a Civil Action [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 1]		
DX0170	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 2]		
DX0171	04-17-1999 David N. Lambeth web biography for Carnegie Mellon University (CMU) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 3]		
DX0172	08-24-2000 CMU landing page for the Data Storage Systems Center [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 4]		
DX0173	05-04-2001 CMU web page for DSSC Overview [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 5]		
DX0174	1996-1997 CMU DSSC Membership Agreements file documenting DSSC sponsor as of 1997 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 6]	CMU1_004190	CMU1_004225
DX0175	CMU Sponsor Payment History Summary, All Members Names and Dates [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 9]	CMU_002787	CMU_2790
DX0176	09-07-1999 Memorandum, with attachments, from CMU Provost Paul Christiano to CMU Professor David N. Lambeth to confirm that request for leave of absence has been approved [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 12]	CMU1_002613	CMU1_002618
DX0177	08-31-1999 Memorandum from David Lambeth to Robert M. White (Director, DSSC), Pradeep K. Khosla (Department Head, Electrical & Computer Engineering (ECE)), Anthony D. Rollett (Department Head, Software Engineering Masters Program (MSE)) and John L. Anderson (Dean, College of Engineering (CIT)), subject line: Formal DSSC Resignation [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 13]	CMU_000004	
DX0178	01-09-2000 CMU Faculty Leave of Application Program, Application Form, Academic Year 2000 – 2001, executed by Professor David N. Lambeth, ECE Department, listing previous leave date range: 09/01/1999 – 08/31/2000 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 14]	LAMBETH-000140384	LAMBETH-000140385
DX0179	02-15-2000 Memorandum from CMU Provost Paul Christiano to CMU Professor David N. Lambeth to confirm that request for non-supported leave of absence has been approved [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 15]	CMU1_002919	
DX0180	12-31-1996 David Lambeth CMU Faculty Report for 01/01/1996 – 12/31/1996 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 16]	LAMBETH-000142351	LAMBETH-000142358
DX0181	07-08-2002 CMU DSSC document describing funding that a DSSC sponsor might provide for a DSSC project as of 2002 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 17]		
DX0182	12-31-1997 David Lambeth CMU Faculty Report for 01/01/1997 – 12/31/1997 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 18]	LAMBETH-000142359	LAMBETH-000142370

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0183	12-31-1998 David Lambeth CMU Faculty Report for 01/01/1998 – 12/31/1998 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 19]	LAMBETH-000140985	LAMBETH-000140990
DX0184	01-13-2000 Email chain [start/end date range omitted], the most recent message from David Lambeth to Cam Miller (CMU ECE), subject line: Re: [Fwd: Annual Report] [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 20]	LAMBETH-000140350	LAMBETH-000140351
DX0185	12-31-2001 David Lambeth CIT Faculty Report for 01/01/2001 – 12/31/2001 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 21]	LAMBETH-000143340	LAMBETH-000143359
DX0186	06-19-2001 Lambeth, Highly Oriented Magnetic Thin Films, Recording Media, Transducers, Devices Made Therefrom and Methods of Making, U.S. Patent 6,248,416 B1 (filed 11/10/1997) (issued 06/19/2001) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 22]	CMU22	
DX0187	02-03-1999 CMU Office of Technology Transfer, Memorandum from Rebecca Turley (Licensing Assistant) to Tom Egan (CMU Office of Sponsored Projects), Subject Line: Invention Disclosure 97-103, relating to retention of title to Patent Application No. 08/967,669 (issued as U.S. Patent 6,248,416 B1) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 23]	CMU1_001340	
DX0188	CMU IP management database printout of the docket report for invention 97-103 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 24]	CMU1_001994	CMU1_001998
DX0189	06-05-1997 Printed email compilation, date range 06/04/1997 to 06/05/1997, the topmost message from Meg Stanko (CMU Technology Transfer Office Licensing Assistant) to David Lambeth, copied to cp3t@cmu.edu, subject line: Re: Disclosures and Grant funding [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 25]	CMU1_001521	CMU1_001525
DX0190	05-27-1997 Invention Disclosure 97-107 titled Nearly Ideal Bi-Crystal Longitudinally Oriented Magnetic Thin Films, named inventors: David N. Lambeth, Wei Yang and David E. Laughlin, submitted on or about 05/20/1997 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 26]	CMU1_003254	CMU1_003371
DX0191	00/00/1997 Memorandum from David Lambeth to Marian S. Kovalchik, copied to R.M. White and A.D. Rollett, subject line: Re: 1997 Seagate Research Grant – CMU Account # 1-32444 [Lambeth's Seagate account] [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 27]	LAMBETH-000211586	
DX0192	05-17-1999 Memorandum from David Lambeth to Marian S. Kovalchik, subject line: Seagate – Non-Overhead Grant Support, CMU Account #1-32444, discussed Seagate unrestricted grant for general research activities in magnetic recording materials [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 28]	LAMBETH-000147880	
DX0193	10-16-2017 Printout summary from CMU advancement of gifts showing lifetime donations by Seagate Technology and Seagate Recording Media [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 29]	CMU1_003935	CMU1_003940
DX0194	10-08-1997 Seagate press release titled Seagate Technology Strengthens Commitment to University Research Efforts [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 30]		
DX0195	10-02-1996 DSSC Associate Member Advisory Board Meeting Minutes [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 31]	CMU1_004250	
DX0196	08-13-1997 CMU Engineering Memorandum from Robert M. White and John L. Anderson to David Lambeth, subject line: Feedback on Peer Review of Tenured Faculty [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 32]	CMU1_002931	
DX0197	08-12-1998 CMU DSSC Memorandum from James E. Williams, Jr. (Director of Operations) to DSSC Thrust Leaders, subject line: DSSC Directors' Meeting Format, attaching meeting minutes [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 34]	CMU1_004463	CMU1_004464
DX0198	08-11-1998 Email from J. Williams to D. Lambeth, copied to M. Kulik, subject line: Walter Deforest contact info [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 35]	CMU1_004468	
DX0199	08-19-1998 Email message (to, from, copyee and subject line omitted) from J. Williams to D. Lambeth [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 36]	CMU1_004465	CMU1_004467
DX0200	03-19-1999 Memorandum from Robert M. White to James E. Williams, Jr., subject line: Concerns – PERSONAL & CONFIDENTIAL [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 37]	CMU1_004457	CMU1_004458

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0201	08-20-1998 Email chain, the most recent message from James Williams to David E. Laughlin, copied to M. Kulik, subject line: Re: Returned mail [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 38]	CMU1_004461	CMU1_004462
DX0202	03-29-1999 Email from James E. Williams to Robert M. White, copied to M. Kulik, subject line: Magnetic Media Support [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 39]	CMU1_004456	
DX0203	01-11-1990 CMU Intellectual Property Policy Agreement Form pursuant to CMU Intellectual Property Policy dated as of August 27, 1985, signed by Jason Wolf (CMU staff member who ran one of the labs) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 42]	CMU1_003941	
DX0204	01-29-2018 Subpoena to Testify at a Deposition in a Civil Action, served upon CMU relating to Lambeth v. Western Digital Corp (W.D. Pa., 1:16cv541-CB) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 43]		
DX0205	1983-2002 Payment history titled IBM Payments summarizing payments made by IBM to CMU for DSSC memberships, separate funding and equipment donations [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 44]	CMU_003017	CMU_003018
DX0206	1990-2002 Payment history titled Read Rite payments, summarizing payments made by Read Rite IBM to CMU [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 45]	CMU_003081	
DX0207	01-31-2018 Compilation of summaries of lifetime donations/gifts of various IBM entities to CMU s of 01/31/2018 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 46]	CMU-003339	CMU_003362
DX0208	07-18-1983 Associates Agreement between CMU and IBM relating to funding for the Magnetics Technology Center, which later became DSSC [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 47]	CMU_003053	CMU_003063
DX0209	12-05-2001 Amendment to Associates Agreement; reference: Associates Agreement dated 07/18/1983 between IBM and CMU, and amendments dated 12/19/1986, 04/01/1987, 09/28/1987, 05/05/1988, 07/17/1989, 08/10/1990, 07/16/1992, 09/23/1993, 11/11/1993, 02/17/1995, 07/14/1996, 02/24/1997, 12/15/1998, 09/30/1999, 07/20/2000 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 48]	CMU_003013	CMU_003016
DX0210	12-15-1998 Amendment to Associates Agreement; reference: Associates Agreement dated 07/18/1983 between IBM and CMU, and amendments dated 12/19/1986, 04/01/1987, 09/28/1987, 05/05/1988, 07/17/1989, 08/10/1990, 07/16/1992, 09/23/1993, 11/11/1993, 02/17/1995, 07/14/1996, 02/24/1997 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 49]	CMU_003019	CMU_003021
DX0211	08-10-1998 CMU DSSC Memorandum from Mark H. Kryder (Seagate Research) to DSSC Faculty, Staff and Students, subject line: DSSC Intellectual Property, Consulting and Conflict of Interest Application Guidelines, with attachments [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 50]	CMU1_004182	CMU1_004189
DX0212	11-11-1988 Letter from Roger S. Van Heyningen (Director, Electronics Research Laboratories, Kodak) to Stephen W. Director (Whitaker Professor and Head Department of Electrical and Computer Engineering, CMU) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 51]	CMU_000026	CMU_000027
DX0213	01-21-1997 Memo from D. Lambeth to M. Kryder re: Typical License Fees for Data Storage Patents [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 52]	CMU1_002468	CMU1_002470
DX0214	07-27-1997 DSSC Memorandum from Mark Kryder to Casey Porto, dated 07/26/1997, stamped received on 07/29/1997, subject line: Evaluation of Disclosures 97-103, 97-104, 97-105, 97-106, 97-107 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 53]	CMU1_002441	
DX0215	07-13-2001 CMU Office of Technology Transfer Memorandum from Marilyn Wray to Tom Egan (Sponsored Projects), subject line: Invention Disclosure # 97-103 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 54]	CMU1_003928	
DX0216	02-17-1997 Invention Disclosure 97-069, titled Magnetic Media Structure to Overcome the Thermal Stability Limits, signed by inventors David Lambeth (02/08/1997), Li-Lien Lee (undated), D.E. Laughlin (02/11/1997) and TBD, received by CMU Technology Transfer Office on 02/17/1997 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 55]	CMU1_003022	CMU1_003041

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DX0217	05-07-1997 CMU ECE Dept. Memorandum from David Lambeth to M. Kryder (DSSC) and M. Coticchia (TTO), copied to C. Porto, J. Williams, R. White, A. Rollett, subject line: Invention Disclosure: "Near Field MO-SIL Transducer," 97-100 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 56]	CMU1_003042	CMU1_003058
DX0218	05-30-1997 Invention Disclosure 97-105, titled Nearly Ideal Perpendicularly Oriented Magnetic Thin Films, signed by inventors David Lambeth (05/18/1997), Wei Yan (05/20/1997), Heng Gong (05/20/1997), David E. Laughlin (05/20/1997), received by CMU Technology Transfer Office on 05/30/1997 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 57]	CMU1_003180	CMU1_003187
DX0219	05-30-1997 Invention Disclosure 97-103, titled Highly Oriented Soft Magnetic Thin Films, signed by inventors David Lambeth (05/26/1997), Heng Gon (05/28/1997), David E. Laughlin (05/28/1997), received by CMU Technology Transfer Office on 05/30/1997 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 58]	CMU1_003059	CMU1-003066
DX0220	05-30-1997 Invention Disclosure 97-104, titled Multiple Underlayers for Perpendicularly Oriented Magnetic Thin Film Media, signed by inventors David Lambeth (05/18/1997), Jie Zou (05/24/1997), Heng Gong (05/24/1997), David E. Laughlin (05/26/1997), received by CMU Technology Transfer Office on 05/30/1997 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 59]	CMU1_003119	CMU1_003179
DX0221	10-01-2002 CMU DSSC Report – Advancing the State-of-the-Art in Magnetic and Optical Recording: Fall Technical Review Presentations, October 1 & 2, 2002, Professor Robert M. White (Director), Dr. Horacio A. Mendez (Executive Director) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 60]	CMU_000103	CMU_000316
DX0222	03-06-2001 CMU DSSC Report – Accelerating U.S. Leadership in Data Storage: Spring Technical Review Presentations, March 6 & 7, 2001, Professor Robert M. White (Director), Dr. Horacio A. Mendez (Executive Director) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 61]	CMU_001896	CMU_002114
DX0223	10-10-2000 CMU DSSC Report: Fall Technical Review Presentations, October 10 & 11, 2000, Professor Robert M. White (Director), Dr. Horacio A. Mendez (Executive Director) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 62]	CMU_001335	CMU_001552
DX0224	03-07-2000 CMU DSSC Report – Accelerating U.S. Leadership in Data Storage: Spring Technical Review Presentations, March 7 & 8, 2000, Professor Robert M. White (Director) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 63]	CMU_002115	CMU_002349
DX0225	03-03-1998 CMU DSSC Report: Eighth Year NSF Site Review Presentations, March 3-4, 1998, Professor Mark H. Kryder (Director), James E. Williams, Jr. (Director of Operations) [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 64]	CMU_000317	CMU_000618
DX0226	12-16-2014 David Lambeth's CMU Human Resources (HR) Employment Record, 1989-1999; 2001-2012 [02-16-2018 Deposition of Robert Wooldridge (CMU), Ex. 65]	CMU1_002446	CMU1_002448
DX0227	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 1]		
DX0228	12-10-2010 Assignment Agreement between Lambeth Systems and SBS Magnetics LLC (nka Acacia Research Corporation) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 2]	ARC 00622	ARC 00640
DX0229	03-02-2011 Option Agreement between Acacia Research Corporation and Samsung Electronics Co., Ltd [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 3]	ARC0003189	ARC0003189
DX0230	09-30-2010 Microsoft-Acacia Amended and Restated Confidential Option Agreement and Addendum A (Addendum Portfolio License and Covenant-Not-to-Sue Addendum) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 4]	ARC0002950	ARC0003092
DX0231	12-12-2011 Microsoft-Acacia Amended and Restated Confidential Option Agreement – Schedule Sub-Ex. A.1 (Acacia Covenanted Patents) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 5]	ARC0003711	ARC0003752
DX0232	12-12-2012 Microsoft-Acacia Amended and Restated Confidential Option Agreement – Schedule Sub-Ex. A.1 (Acacia Covenanted Patents) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 6]	ARC0003583	ARC0003710
DX0233	06-29-2012 Portfolio License, Covenant-Not-To-Sue, and Related Rights Agreement between Acacia Research Corporation and Cisco Systems, Inc. [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 7]	ARC0003190	ARC0003222
DX0234	12-20-2009 Option Agreement between Acacia Research Corporation and Oracle Corporation [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 8]	ARC0003389	ARC0003450



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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0235	03-01-2010 Option Agreement between Acacia Research Corporation and Oracle Corporation – First Amendment [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 9]	ARC0003344	
DX0236	03-31-2010 Option Agreement between Acacia Research Corporation and Oracle Corporation – Second Amendment [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 10]	ARC0003345	ARC0003388
DX0237	12-07-2010 Texas Secretary of State Business Organizations: SBS Magnetics LLC, Entity View [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 11]		
DX0238	11-10-2017 Acacia Research Corporation website printout: Overview [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 12]		
DX0239	11-10-2017 Acacia Research Corporation website printout: History [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 13]		
DX0240	11-10-2017 Acacia Research Corporation website printout: How We Work [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 14]		
DX0241	12-21-2010 Acacia IP presentation (damages analysis): Samsung/Acacia – Acacia's Lambeth Patent Portfolio: Magnetic Material Structures, Devices, and Methods [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 15]	ARC 00302	ARC 00306
DX0242	06-28-2013 Settlement Agreement between SBS Magnetics LLC (nka Acacia Research Corp.) and Lambeth Systems [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 16]	LAMBETH-000224014	LAMBETH-000224031
DX0243	01-06-2011 Acacia IP presentation (claim chart): Lambeth US Patent No. 7,128,988: Magnetic Material Structures, Devices and Methods [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 17]	ARC 00429	ARC 00495
DX0244	12-16-2010 Email string, the most recent message (4:02:40 AM) from David N. Lambeth to Phillip Mitchell, copied to Steve Wong and Brian Rinaldi, subject line: Re[2]: RE and ETA [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 18]	LAMBETH-000232465	LAMBETH-000232466
DX0245	12-16-2010 Email string, the most recent message (8:07:59 AM) from Phillip Mitchell to David N. Lambeth, copied to Steve Wong and Brian Rinaldi, subject line: RE: Re[2]: RE and ETA [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 19]	LAMBETH-000232467	LAMBETH-000232469
DX0246	05-29-2013 Substituted Original Complaint, 2:13-cv-00194-JRG-RSP, Lambeth v. Acacia Research Corp., ECF No. 27 (E.D. Tex.) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 20]		
DX0247	03-29-2013 Defendant Acacia Research Corporation's Answer to Plaintiff's Original Complaint, 2:13-cv-00194-JRG-RSP, Lambeth v. Acacia Research Corp., ECF No. 15 (E.D. Tex.) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 21]		
DX0248	07-18-2008 Email string (07/17/2008 – 07/18/2008), the most recent message (5:00:04 AM) from David N. Lambeth to Phillip Mitchell, subject line: Re: Would like to schedule a phone conference [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 22]	LAMBETH-000224288	
DX0249	10-23-2009 Email string (10/22/2009 – 10/23/2009), the most recent message (1:36:19 PM) from David N. Lambeth to Dooyong Lee, copied to Phillip Mitchell, subject line: Re[2]: Meeting here on Nov 5 (Thurs) 1PM (six referenced attachments not included) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 23]	LAMBETH-000224542	LAMBETH-000224543
DX0250	09-26-2010 Email from David N. Lambeth to Phillip Mitchell and Dooyong Lee, subject line: LS Slides part 1, attaching presentation bearing filename HGS HDD A925_1140 part 1 [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 24]	LAMBETH-000232010	LAMBETH-000232028
DX0251	09-26-2010 Email from David N. Lambeth to Phillip Mitchell and Dooyong Lee, subject line: LS Slides part 2, attaching presentation bearing filename HGS HDD A925_1140 part 2 [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 25]	LAMBETH-000231960	LAMBETH-000231985
DX0252	09-26-2010 Email from David N. Lambeth to Phillip Mitchell and Dooyong Lee, subject line: LS Slides part 3, attaching presentation bearing filename HGS HDD A925_1140 part3 [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 26]	LAMBETH-000231986	LAMBETH-000232009
DX0253	09-27-2010 Email string (09/26/2010 – 09/27/2010), the most recent message (7:29:38 PM) from David N. Lambeth to Phillip Mitchell, copied to Dooyong Lee, subject line: Re[4]: LS Slides part 3, attaching document bearing filename HDD Business & Record Head Tech Sum Draft A925_1244 [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 27]	LAMBETH-000231213	LAMBETH-000231233

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DX0254	09-28-2010 Email from David N. Lambeth to Phillip Mitchell, copied to N. Thomas Nuhfer, subject line: Introduction [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 28]	LAMBETH-000224747	
DX0255	10-21-2010 Email string (10/20/2010 – 10/21/2010), the most recent message (5:53:01 PM) from David N. Lambeth to Phillip Mitchell, subject line: Re-2]: How's it going? [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 29]	ARC0001711	ARC0001712
DX0256	12-16-2010 Email from Brian Rinaldi to David N. Lambeth, copied to Phillip Mitchell, subject line: Lambeth – CB/SAD photos for Hitachi [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 30]	LAMBETH-000232478	
DX0257	11-03-2010 Meeting invitation from Phillip Mitchell to David N. Lambeth, Brian Rinaldi, Steve Wong, Jeff Sheldon, copied to Marc Booth, subject line: Tutorial from David Lambeth, scheduled for Friday, 11/05/1010 by teleconference from Acacia 8th floor conference room [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 31]	LAMBETH-000225562	
DX0258	11-28-2010 Email string, the most recent message (10:43:17 PM) from David N. Lambeth to Phillip Mitchell, subject line: Re[2] SG 500GB HDD Head –CS part 2: CONFIDENTIAL-SUBJECT TO NDA-COMMON INTEREST WORK PRODUCT IN ANTICIPATION OF LITIGATION [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 32]	LAMBETH-000232210	
DX0259	12-11-2010 Email string (12/10/2010 – 12/11/2010), the most recent message (4:57:15 AM) from David N. Lambeth to Brian Rinaldi, copied to Phillip Mitchell and Steve Wong, subject line: Re[2]: Compare SS FIBs: CONFIDENTIAL-SUBJECT TO NDA – COMMON INTEREST WORK PRODUCT IN ANTICIPATION OF LITIGATION [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 33]	LAMBETH-000232435	LAMBETH-000232436
DX0260	12-16-2010 Email string (12/15/2010 – 12/16/2010), the most recent message (6:42:03 PM) from David N. Lambeth to Phillip Mitchell, subject line: Re[6]: RE and ETA [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 34]	LAMBETH-000232479	LAMBETH-000232483
DX0261	12-16-2010 Email from David N. Lambeth to Phillip Mitchell, subject line: gift letter (referenced attachment bearing filename SBS Magnetics Gift letter AC16.txt not attached) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 35]	LAMBETH-000232494	
DX0262	Draft gift letter from SBS Magnetics to Professor David N. Lambeth [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 36]	LAMBETH-000232495	
DX0263	02-01-2011 Email string, the most recent message (8:21:49 PM) from David N. Lambeth to Brian Rinaldi, copied to Phillip Mitchell and Tom Nuhfer, subject line: Re: Status Update [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 37]	LAMBETH-000232818	
DX0264	01-12-2011 Email from B. Rinaldi to D. Lambeth, copied to S. Wong, T. Nuhfer and P. Mitchell, subject line: Lambeth – Project Schedule (referenced attachment bearing filename Project Milestones 1-11-11.xls not attached) [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 38]	ARC000653	
DX0265	01-11-2011 Acacia's 2011 Project Milestones [12-06-2017 Deposition of Phillip Mitchell (Acacia), Ex. 39]	ARC0000654	
DX0266	11-22-2017 Declaration of Jimmy Goo in Support of Plaintiff Lambeth Magnetic Structures, LLC's Opposition to Seagate's Motion to Compel (Lambeth v. Seagate, W.D. Pa., 2:16-cv-00538-CB) [02-28-2018 Deposition of Jimmy Goo, Ex. 1]		
DX0267	09-25-2013 Lambeth-Maistro Agreement, between Lambeth Magnetic Structures, LLC and Maistro LLC [02-28-2018 Deposition of Jimmy Goo, Ex. 2]	LAMBETH-000235222	LAMBETH-000235241
DX0268	10-28-2010 Email from David Lambeth to Jimmy Goo, copied to Jim Digiordio [sic], subject line: Background info: USPTO 7,128,988 – Confidential Subject to NDA – Common Interest Work Product in Anticipation of Litigation [02-28-2018 Deposition of Jimmy Goo, Ex. 3]	LAMBETH-000239316	
DX0269	11-03-2010 Email from David Lambeth to Jimmy Goo and Adrienne DiGiorgio, subject line: HGS 3rd Qtr sales, revenues and market share [02-28-2018 Deposition of Jimmy Goo, Ex. 4]	LAMBETH-000239013	
DX0270	03/00/2014 Certificate of Formation of Maistro LLC [02-28-2018 Deposition of Jimmy Goo, Ex. 5]	MAISTRO-0000002	
DX0271	02-27-2018 New Jersey Business Gateway, Business Entity Information and Records Service, Business ID: 0600412480, Status Report for Enlightened Ventures LP [02-28-2018 Deposition of Jimmy Goo, Ex. 6]		

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DX0272	02-27-2018 Privilege Log of Third Party Jimmy Goo (Lambeth v. Western Digital, W.D. Pa., 2:16-cv-00541-CB) [02-28-2018 Deposition of Jimmy Goo, Ex. 7]		
DX0273	02-26-2018 Amended Notice of Subpoena to Testify at Deposition [02-17-2018 Deposition of Kaizhong Gao , Ex. 1]		
DX0274	02-04-2014 Gao, Tapered Single Pole Magnetic Heads for Perpendicular Magnetic Recording, U.S. Patent No. 8,643,979 B2 (filed May 24, 2004) (issued Feb. 4, 2014) [02-17-2018 Deposition of Kaizhong Gao , Ex. 2]		
DX0275	02-26-2018 Kaizhong Gao's LinkedIn profile [02-17-2018 Deposition of Kaizhong Gao , Ex. 3]		
DX0276	01-14-2014 Xiao, Patterned Template With 1XN Nucleation Site to Grain Growth for Uniform Grain Size Recording Media, U.S. Patent No. 8,628,867 B2 (filed Sept. 30, 2010) (issued Jan. 14, 2014) [02-17-2018 Deposition of Kaizhong Gao , Ex. 4]		
DX0277	01-14-2014 Prosecution file history for U.S. Patent No. 8,628,867 B2 (Patent Application No. 12/895,564) [02-17-2018 Deposition of Kaizhong Gao , Ex. 5]		
DX0278	12-05-2017 Subpoena to Testify at a Deposition in a Civil Action [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 1]		
DX0279	03/00/2011 Samsung Semiconductor Product Sales, March 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 2]	S0003238	S0003577
DX0280	04/00/2011 Samsung Semiconductor Product Sales, April 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 3]	S0000538	S0000787
DX0281	05/00/2011 Samsung Semiconductor Product Sales, May 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 4]	S0003578	S0003870
DX0282	06/00/2011 Samsung Semiconductor Product Sales, June 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 5]	S0000101	S0000347
DX0283	07/00/2011 Samsung Semiconductor Product Sales, July 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 6]	S0002405	S0002686
DX0284	08/00/2011 Samsung Semiconductor Product Sales, August 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 7]	S0001008	S0001264
DX0285	09/00/2011 Samsung Semiconductor Product Sales, September 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 8]	S0006314	S0006539
DX0286	10/00/2011 Samsung Semiconductor Product Sales, October 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 9]	S0004474	S0004619
DX0287	11/00/2011 Samsung Semiconductor Product Sales, November 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 10]	S0004139	S0004223
DX0288	03/00/2011 Excerpt from Samsung Semiconductor Product Sales, March 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 11]	S0003338	S0003397
DX0289	03/00/2011 Excerpt from Samsung Semiconductor Product Sales, March 2011 [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 12]		
DX0290	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 13]		
DX0291	12-05-2017 Subpoena to Testify at a Deposition in a Civil Action [12-20-2017 Deposition of Jane Kim (Samsung Semiconductor), Ex. 14]		
DX0292	08-24-2017 Subpoena to Microsoft Corporation to Testify at a Deposition under FRCP 30(b)(6) [09-12-2017 Deposition of Alyssa Talley (Microsoft), Ex. Deft. 001]		
DX0293	06-30-2017 Microsoft Xbox 360 and One Consoles Adjusted Sales Revenue sold in U.S. from April 2010 – April 2016 [09-12-2017 Deposition of Alyssa Talley (Microsoft), Ex. Deft. 002]	MSFT_SEA000001	MSFT_SEA000014
DX0294	06-30-2017 Microsoft Xbox 360 and One Consoles Sales Units summarizing units sold in U.S. from April 2010 – April 2016 [09-12-2017 Deposition of Alyssa Talley (Microsoft), Ex. Deft. 003]	MSFT_SEA000017	MSFT_SEA000030
DX0295	06-30-2017 Microsoft Xbox 360 and One Consoles Sales Summary for both revenue and units sold in U.S. from April 2010 – April 2016 [09-12-2017 Deposition of Alyssa Talley (Microsoft), Ex. Deft. 004]	MSFT_SEA000015	MSFT_SEA000016
DX0296	08-02-2017 Microsoft Xbox 360 Consoles Sales US Units sold in U.S. within fiscal month December 2010 [09-12-2017 Deposition of Alyssa Talley (Microsoft), Ex. Deft. 005]	MSFT_SEA000031	MSFT_SEA000033

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DX0297	08-02-2017 Microsoft Xbox 360 Consoles Sales US Revenue showing adjusted revenues in U.S. for fiscal month December 2010 [09-12-2017 Deposition of Alyssa Talley (Microsoft), Ex. Deft. 006]	MSFT_SEA000034	MSFT_SEA000036
DX0298	Breakdown by year of manufacturers (Seagate, Samsung, Toshiba, Western Digital, Hitachi) of hard disk drives for Xboxes summarizing quantities of Xbox hard drives purchased directly from suppliers from fiscal year 2010 through middle of July 2017; bearing witnesses' handwritten notes with heading FY10-FY13 [09-12-2017 Deposition of Alyssa Talley (Microsoft), Ex. Deft. 007]	MSFT_SEA000071	
DX0299	06-30-2017 Microsoft Xbox 360 and One Consoles Sales Summary for both revenue and units sold in U.S. from April 2010 – April 2016, bearing highlighted portions prepared/added by Seagate's counsel [09-12-2017 Deposition of Alyssa Talley (Microsoft), Ex. Deft. 008]	MSFT_SEA000015	MSFT_SEA000016
DX0300	09-30-2010 Microsoft-Acacia Amended and Restated Confidential Option Agreement and Addendum A (Addendum Portfolio License and Covenant-Not-to-Sue Addendum) [09-12-2017 Deposition of Steven Fricke (Microsoft), Ex. Deft. 009]	ARC0002950	ARC0003092
DX0301	08-06-2010 Email string between Microsoft and Acacia representatives relative to the Microsoft-Acacia agreement, ranging from 07/18/2010 to 08/06/2010, the most recent message from Matthew Vella to Steven Fricke and Jonathan Taub, copied to Tanya Moore, Geoffrey Hoggard, Edward Treska and John Mulgrew, subject line RE: MSFT+ACTG global agreement; separate portfolio already in litigation, in which the parties discuss covenanted versus licensed patents and Acacia's share payment responsibilities with its fiduciaries, i.e. party from whom Acacia bought patents; also endorsed with Bates number range MS_ARC_00011596 - MS_ARC_00011629 [09-12-2017 Deposition of Steven Fricke (Microsoft), Ex. Deft. 010]	MSFT_SEA000037	MSFT_SEA000070
DX0302	12-12-2012 Microsoft-Acacia Amended and Restated Confidential Option Agreement – Schedule Sub-Ex. A.1 (Acacia Covenanted Patents) [09-12-2017 Deposition of Steven Fricke (Microsoft), Ex. Pltf. 001]	ARC0003583	ARC0003710
DX0303	01-05-2018 Plaintiff Lambeth Magnetic Structures, LLC's Amended Notice of Deposition Pursuant to Federal Rule of Civil Procedure 30(b)(6) to [Seagate] Defendants [02-09-2018 Deposition of Matthew Hadley, Ex. 1]		
DX0304	30(b)(6) deposition preparation chart created by Matthew Hadley, with column headings: Topic #, Topic, Relevant Doc/ROG, Further Investigation [02-09-2018 Deposition of Matthew Hadley, Ex. 2]		
DX0305	02-06-2018 Matt Hadley LinkedIn profile [02-09-2018 Deposition of Matthew Hadley, Ex. 3]		
DX0306	09-19-2017 Seagate's Second Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's Second Set of Interrogatories to Seagate Defendants (No. 10) [02-09-2018 Deposition of Matthew Hadley, Ex. 4]		
DX0307	01-13-2010 Muskie Head Product Design, Head Design Points for Muskie (500G/Disk), Rev. A2 [02-09-2018 Deposition of Matthew Hadley, Ex. 5]	SEA00047671	SEA00047672
DX0308	01-07-2010 Desaru Head Product Design, Head Design Points for Desaru (750 GB), Rev. A [02-09-2018 Deposition of Matthew Hadley, Ex. 6]	SEA00030610	SEA00030611
DX0309	Printout of Excel spreadsheet: one sheet bearing title "Full list" and column headings Abbv, Long Name etc., Brief Definition; other sheet bearing titled "New since last" and column headings Abbv, Long Name etc., Brief Definition [02-09-2018 Deposition of Matthew Hadley, Ex. 7]	SEA00050412	
DX0310	Printout of Excel spreadsheet known as Miller Analysis: sheet tab named "Information" with all rows and columns; route tab with all rows and columns; Miller Analysis tab with all rows and columns [02-09-2018 Deposition of Matthew Hadley, Ex. 8]	SEAZ03148859	
DX0311	Sequence file for [REDACTED] recipe at WP1_VD [02-09-2018 Deposition of Matthew Hadley, Ex. 9]	SEA00028034	
DX0312	Sequence file for [REDACTED] recipe at WP_VD [02-09-2018 Deposition of Matthew Hadley, Ex. 10]	SEA00028035	
DX0313	Chamber recipe associated with one of the steps in the sequence file for [REDACTED] recipe at WP1_VD [02-09-2018 Deposition of Matthew Hadley, Ex. 11]	SEA00028031	
DX0314	Expanded version of chamber recipe associated with one of the steps in the sequence file for [REDACTED] recipe at WP1_VD [02-09-2018 Deposition of Matthew Hadley, Ex. 12]	SEA03148849	

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0315	Second part of expanded version of chamber recipe associated with one of the steps in the sequence file for [REDACTED] recipe at WP1_VD [02-09-2018 Deposition of Matthew Hadley, Ex. 13]	SEA03148851	
DX0316	Chamber recipe highlighted as Step two in Sequence file for [REDACTED] recipe at WP1_VD and Sequence file for [REDACTED] recipe at WP_VD [02-09-2018 Deposition of Matthew Hadley, Ex. 14]	SEA00028032	
DX0317	First half, expanded, of chamber recipe highlighted as Step two in Sequence file for [REDACTED] recipe at WP1_VD and Sequence file for [REDACTED] recipe at WP_VD [02-09-2018 Deposition of Matthew Hadley, Ex. 15]	SEA03148852	
DX0318	Second half, expanded, of chamber recipe highlighted as Step two in Sequence file for [REDACTED] recipe at WP1_VD and Sequence file for [REDACTED] recipe at WP_VD [02-09-2018 Deposition of Matthew Hadley, Ex. 16]	SEA03148853	
DX0319	Printout of Excel spreadsheet: details relating to an anneal recipe in the Miller Analysis (the anneal performed during the WP_VD stage) [02-09-2018 Deposition of Matthew Hadley, Ex. 17]	SEA00028026	
DX0320	Printed excerpt from Excel spreadsheet of Seagate sales data, April 2010 to January 2017 (relating to Seagate's drives) [02-09-2018 Deposition of Matthew Hadley, Ex. 18]	SEA01043127	
DX0321	Printed Excel spreadsheet of a Seagate product wafer route [02-09-2018 Deposition of Matthew Hadley, Ex. 19]	SEA03148727	
DX0322	Image of WP1 Boulder sequence for WP1_VD [REDACTED] recipe [02-09-2018 Deposition of Matthew Hadley, Ex. 20]	SEA00028027	
DX0323	Image of WP Boulder sequence for WP_VD [REDACTED] recipe [02-09-2018 Deposition of Matthew Hadley, Ex. 21]	SEA00028028	
DX0324	Image of FeCo320 module chamber recipe called out in WP1 Boulder sequence for WP1_VD [REDACTED] recipe [02-09-2018 Deposition of Matthew Hadley, Ex. 22]	SEA00028025	
DX0325	Printout of Excel spreadsheet of tab showing wafer level slicer (WLS) shipment detail by month [02-09-2018 Deposition of Matthew Hadley, Ex. 23]	SEA03336805	
DX0326	Anelva IPP Instructions: IPP (intended process path) Information and Procedure for Switching to a New IPP when an FeCo (iron-cobalt) target is spent [02-09-2018 Deposition of Matthew Hadley, Ex. 24]	SEA01018766	
DX0327	02-03-2009 Process Title: Anelva Write Pole Qualification, Manufacturing Process Number 81457521, Revision B (old version of the Anelva write pole manufacturing process) [02-09-2018 Deposition of Matthew Hadley, Ex. 25]	SEA02023483	SEA02023502
DX0328	09-30-2016 Printout of Excel spreadsheet of BH Looper recipe data file [02-09-2018 Deposition of Matthew Hadley, Ex. 26]	SEA03148888	
DX0329	09-20-2016 MOKEM (MOK_04) recipe, measurement date 06/26/2017 [02-09-2018 Deposition of Matthew Hadley, Ex. 27]	SEA03176859	
DX0330	05-22-2017 Process Title: MESA Looper Process & Qual, Manufacturing Process Number 81457335, Revision T, [02-09-2018 Deposition of Matthew Hadley, Ex. 28]	SEA03336404	SEA03336421
DX0331	01-08-2016 Process Title: MOKEM Measurements, Manufacturing Process Number 81455503, Revision W [02-09-2018 Deposition of Matthew Hadley, Ex. 29]	SEA03336444	SEA03336464
DX0332	12-19-2016 Presentation by Venkat Inturi titled Writer pole and Shield Materials Requirements [02-09-2018 Deposition of Matthew Hadley, Ex. 30]	SEA01966511	SEA01966514
DX0333	05-15-2003 Jung, et al., Influence of underlayers n the soft properties of high magnetization FeCo films, J. Applied Phys, 93:10, 6462-64, with handwritten notes [02-09-2018 Deposition of Matthew Hadley, Ex. 31]	SEA01134938	SEA01134940
DX0334	10/00/2005 Fu, et al., Soft Anisotropic Fe65Co35/Co Thin Films Prepared by Facing Targets Sputtering, IEEE Transactions on Magnetics, 41:10, 2905-07, with handwritten notes [02-09-2018 Deposition of Matthew Hadley, Ex. 32]	SEA01134835	SEA01134837
DX0335	12-19-2016 Presentation by Venkat Inturi (process) and Kevin Heim (design) titled WP materials for EAW [erase after write] (TTM meeting) [02-09-2018 Deposition of Matthew Hadley, Ex. 33]	SEA02026479	SEA02026530
DX0336	Presentation by Ibroy Tabakovic, Vlad Vas'ko, Venkat Inturi, Steve Riemer and Mark Kief titled Crystal Structure, Stress and Magnetic Properties of Electrodeposited 2.4T CoFe films. Thickness and Substrate Dependence [02-09-2018 Deposition of Matthew Hadley, Ex. 34]	SEA01944075	SEA01944096



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DX0337	Presentation titled Head Magnetic Layers for Outside Seekers, by Venkat Inturi and many others (created 08/07/2012; last modified/accessed 04/08/2013) [02-09-2018 Deposition of Matthew Hadley, Ex. 35]	SEA02304935	SEA02304984
DX0338	09-19-2017 Seagate's Third Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's First Set of Interrogatories (No. 1), with handwritten notes [02-09-2018 Deposition of Matthew Hadley, Ex. 36]		
DX0339	08-02-2017 Seagate's Second Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's First Set of Interrogatories (Nos. 2 & 7), with handwritten notes [02-09-2018 Deposition of Matthew Hadley, Ex. 37]		
DX0340	09-19-2017 Seagate's Second Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's Second Set of Interrogatories to Seagate Defendants (No. 10), with handwritten notes [02-09-2018 Deposition of Matthew Hadley, Ex. 38]		
DX0341	11-27-2017 Seagate's Supplemental Objections and Answers to Lambeth Magnetic Structures LLC's Third Set of Interrogatories to Seagate Defendants (Nos. 12-13) [02-09-2018 Deposition of Matthew Hadley, Ex. 39]		
DX0342	04-21-2017 Seagate's Corrected Objections and Answers to Lambeth Magnetic Structures, LLC's Second Set of Interrogatories to Seagate Defendants (Nos. 8-11) [02-09-2018 Deposition of Matthew Hadley, Ex. 40]		
DX0343	Text of paper, Seigler, et al., Uniaxial HMM (high moment material) via an in-plane texture and/or correlated roughness [02-09-2018 Deposition of Matthew Hadley, Ex. 41]	SEA01929561	SEA01929569
DX0344	02-15-2018 Seagate's Responses and Objections to Lambeth Magnetic Structures, LLC's Second Amended Notice of Deposition Pursuant to Federal Rule of Civil Procedure 30(b)(6) [02-21-2018 Deposition of Michael Kautzky, Ex. 1]		
DX0345	30(b)(6) deposition preparation chart created by Michael Kautzky, with column headings: Topic #, Topic (Lambeth) Topic (Seagate), Relevant ROG, Further Investigation [02-21-2018 Deposition of Michael Kautzky, Ex. 2]		
DX0346	30(b)(6) deposition preparation notes by Michael Kautzky [02-21-2018 Deposition of Michael Kautzky, Ex. 3]		
DX0347	Michael Kautzky's LinkedIn profile [02-21-2018 Deposition of Michael Kautzky, Ex. 4]		
DX0348	09-19-2017 Seagate's Second Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's Second Set of Interrogatories to Seagate Defendants (No. 10) [02-21-2018 Deposition of Michael Kautzky, Ex. 5]		
DX0349	00/00/2010 Presentation by Venkat Inturi and many others, Head Magnetic Layers for Outside Seekers [02-21-2018 Deposition of Michael Kautzky, Ex. 6]	SEA02042430	SEA02042470
DX0350	Presentation by Venkat Inturi, Huaqing Yin, Mark Kief, Matt Hadley, and Christoph Mathieu, Practical FeCo Films for Perpendicular Writer Pole [02-21-2018 Deposition of Michael Kautzky, Ex. 7]	SEA00027744	SEA00027765
DX0351	07-17-2012 Gong, et al., Composition Gradients and Magnetic Properties of 5-100 nm Thin CoNiFe Films Obtained by Electrodeposition, Journal of The Electrochemical Society, 159:7 D447-54 [02-21-2018 Deposition of Michael Kautzky, Ex. 8]	SEA01756680	SEA01756688
DX0352	09-22-2013 Presentation by Huaqing Yin and Jianhua Xue, An Introduction to Perpendicular Writers, © 2020, Oct. 15, 2012, revise[d] Sept. 22, 2013 [02-21-2018 Deposition of Michael Kautzky, Ex. 9]	SEA03126955	SEA03129082
DX0353	09-08-2006 Presentation by Dehua Han and Mike Tang, EAW [Erasure-After-Writing] Elimination Related Projects – RHO Roadmap-2006 [02-21-2018 Deposition of Michael Kautzky, Ex. 10]	SEA01049938	SEA01049948
DX0354	12/00/2001 100 GBPSI BTD Feasibility Final Report, Final Program Report, December 2001, Seagate Research Center, Report No. 02-081-01, Collaborative Effort by Research, AdCon, RMO and RHO, Technical Leader: Mark H. Kryder, Program Manager: James E. Williams © 2002 [02-21-2018 Deposition of Michael Kautzky, Ex. 11]	SEA01043148	SEA01043274
DX0355	12-06-2011 Presentation by S. Sahoo, M. Kautzky, Declan Macken, Arko Misra, Bian Karr, Magnetic Overcoat Materials and Process Development [02-21-2018 Deposition of Michael Kautzky, Ex. 12]	SEA01610595	SEA01610621

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DX0356	10-22-2007 Presentation by Dehua Han, Huaqing Yin & James Price, [REDACTED] & _XE Writer Pole Update – For Cannon & Boulder [02-21-2018 Deposition of Michael Kautzky, Ex. 13]	SEA00521911	SEA00521951
DX0357	07-15-2005 Presentation, TDT Vacuum, Venus WBR1.5 – Al2O3 Laminated Writer Pole Deposition [02-21-2018 Deposition of Michael Kautzky, Ex. 14]	SEA02897954	SEA02898006
DX0358	10/00/2012 est. Presentation by Jie Gong, Steve Riemer, Venkatram Venkatasamy, Michael Kautzky, and Ibro Tabakovic, Composition gradient and magnetic properties of 5-500 nm thick NiFe and CoFe films obtained by electrodeposition, ECS Meeting, October 2012, Honolulu [02-21-2018 Deposition of Michael Kautzky, Ex. 15]	SEA02042387	SEA02042404
DX0359	06-12-2005 Presentation by Dehua Han, Chris Rea, Jianhua Xue and Mike Tang, Gradient Writer Pole + No-YOKE – For Optimizing Writability and Erasure [02-21-2018 Deposition of Michael Kautzky, Ex. 16]	SEA01047543	SEA01047562
DX0360	Presentation by Ibro Tabakovic, Vlad Vas'ko, Venkat Inturi, Steve Riemer and Mark Kief titled Crystal Structure, Stress and Magnetic Properties of Electrodeposited 2.4T CoFe films. Thickness and Substrate Dependence [02-21-2018 Deposition of Michael Kautzky, Ex. 17]	SEA01944075	SEA01944096
DX0361	00/00/2017 Printout of Venkateswara Inturi's LinkedIn page [10-05-2017 Deposition of Venkat Inturi, Ex. 1]		
DX0362	07/10/2014 – 09/29/2016 Venkat Inturi's Business Diary, from 07/10/2014: TDT Vacuum (Writer) [10-05-2017 Deposition of Venkat Inturi, Ex. 2]	SEA03136838	SEA03136947
DX0363	00/00/1998 Typed notes titled 1998 Spring MRS Meeting, San Francisco, CA; memorializes meeting of Materials Research Society [10-05-2017 Deposition of Venkat Inturi, Ex. 3]	SEA01913729	SEA01913734
DX0364	09-24-1999 Interoffice memorandum from Venkat Inturi to Distribution, subject: Trip report DISKCON 99, dated 09/24/1999 [10-05-2017 Deposition of Venkat Inturi, Ex. 4]	SEA01918175	SEA01918180
DX0365	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [10-05-2017 Deposition of Venkat Inturi, Ex. 5]		
DX0366	10-10-2002 Presentation titled Soft high moment materials, by Venkat Inturi and Mark Kief, dated 10/10/2002 [10-05-2017 Deposition of Venkat Inturi, Ex. 6]	SEA02072690	SEA02072698
DX0367	05/00/2012 Inturi, et al., Practical FeCo Films for Perpendicular Writer Pole, IEEE Transactions on Magnetics, Vol. 48, No. 5, May 2012 [10-05-2017 Deposition of Venkat Inturi, Ex. 7]		
DX0368	00/00/2010 (copyright) Presentation titled Head Magnetic Layers for Outside Seekers, by Venkat Inturi and many others (created 08/07/2012; last modified/accessed 03/18/2013) [10-05-2017 Deposition of Venkat Inturi, Ex. 8]	SEA02045902	SEA02045918
DX0369	Presentation titled Head Magnetic Layers for Outside Seekers, by Venkat Inturi and many others (created 08/07/2012; last modified/accessed 04/08/2013) [10-05-2017 Deposition of Venkat Inturi, Ex. 9]	SEA02304935	SEA02304984
DX0370	Presentation titled Practical FeCo Films for Perpendicular Writer Pole, by Venkat Inturi, Huaqing Yin, Mark Kief, Matt Hadley, and Christoph Mathieu (created 07/12/2006; last modified/accessed 12/09/2011) [10-05-2017 Deposition of Venkat Inturi, Ex. 10]	SEA02036789	SEA02036811
DX0371	Image of FeCo320 module chamber recipe called out in WP1 Boulder sequence for WP1_VD [REDACTED] recipe [10-05-2017 Deposition of Venkat Inturi, Ex. 11]	SEA00028025	
DX0372	Image of WP1 Boulder sequence for WP1_VD [REDACTED] recipe [10-05-2017 Deposition of Venkat Inturi, Ex. 12]	SEA00028027	
DX0373	Image of WP Boulder sequence for WP_VD [REDACTED] recipe [10-05-2017 Deposition of Venkat Inturi, Ex. 13]	SEA00028028	
DX0374	09/00/2017 est. Updated Seagate sales data (update to Seagate sales data produced at SEA01043127 [10-05-2017 Deposition of Venkat Inturi, Ex. 14]	SEA03148857	
DX0375	30(b)(6) deposition preparation chart created by Robert Pechman, with column headings: Lambeth Topic, Seagate to Provide, Summary of Responsive Information, People [02-08-2018 Deposition of Robert Pechman, Ex. 1]		
DX0376	01-30-2018 Robert Pechman LinkedIn profile [02-08-2018 Deposition of Robert Pechman, Ex. 2]		

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DX0377	01-08-2015 Letter from Mitsunobu Enomoto (Senior Manager, Toshiba Corp) to Takahiro Hidaka (Senior Manager, Tomen Electronics Corp), subject line: Indemnification Request for Patent Lawsuit brought by Lambeth Magnetic Structures LLC [02-08-2018 Deposition of Robert Pechman, Ex. 3]	SEA03336364	SEA03336365
DX0378	03-04-2015 Letter from Don Beardsley (Senior Attorney, Seagate Technology LLC) to Takahiro Hidaka, copied to Steven Haines (Deputy General Counsel, Seagate) and Yohei Nagao (Nippon-Seagate employee), subject line: Lambeth Allegations Against Toshiba [02-08-2018 Deposition of Robert Pechman, Ex. 4]	SEA03336369	
DX0379	01-09-2015 Forwarded email from Takiuchi (Tomen) to Yohei Nagao (Seagate), copied to Nohata (Tomen), apparently discussing Lambeth's lawsuit against Toshiba [02-08-2018 Deposition of Robert Pechman, Ex. 5]	SEA03336366	SEA03336368
DX0380	12-11-2017 Seagate's Objections and Answers to Lambeth Magnetic Structures, LLC's Fourth Set of Interrogatories to Seagate Defendants (Nos. 14-15) [02-08-2018 Deposition of Robert Pechman, Ex. 6]		
DX0381	03-07-2002 Patent License Agreement between Censtor Corp. and Seagate Technology, LLC [02-08-2018 Deposition of Robert Pechman, Ex. 7]	SEA00183901	SEA00183912
DX0382	07-11-2003 Patent Assignment Agreement from Censtor Corporation to Seagate Technology LLC [02-08-2018 Deposition of Robert Pechman, Ex. 8]	SEA03336123	SEA03336133
DX0383	07-24-1997 Licensing Agreement, between Forschungszentrum Julich GmbH and Seagate Technology, Inc. on GMR-heads for hard-disc drives [02-08-2018 Deposition of Robert Pechman, Ex. 9]	SEA00183921	SEA00183927
DX0384	02-06-2018 Seagate's Second Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's Second Set of Interrogatories to Seagate Defendants (Nos. 8 and 9) [02-08-2018 Deposition of Robert Pechman, Ex. 10]		
DX0385	10-01-1997 CMU DSSC Associates Agreement with Seagate [02-08-2018 Deposition of Robert Pechman, Ex. 11]	SEA02238164	SEA02238170
DX0386	06-26-2001 CMU DSSC Associates Agreement with Seagate, effective 10/01/2000 [02-08-2018 Deposition of Robert Pechman, Ex. 12]	SEA02238171	SEA02238177
DX0387	04-19-2011 Asset Purchase Agreement by and among Samsung Electronics Co., LTD., Seagate Technology International and Seagate Technology PLC [02-08-2018 Deposition of Robert Pechman, Ex. 13]	SEA02238209	SEA02238281
DX0388	04-19-2011 Intellectual Property Agreement by and between Samsung Electronics Co., LTD. and Seagate Technology International [02-08-2018 Deposition of Robert Pechman, Ex. 14]	SEA02238282	SEA02238296
DX0389	02-06-2018 Seagate's Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's First Set of Interrogatories to Seagate Defendants (No. 3) [02-08-2018 Deposition of Robert Pechman, Ex. 15]		
DX0390	01-04-2018 Seagate's Amended Invalidity and Non-Infringement Contentions [02-08-2018 Deposition of Robert Pechman, Ex. 16]		
DX0391	10-16-2016 Physics Forums website post by author name Polinomial titled Invalidating a patent directed to physical laws [02-08-2018 Deposition of Robert Pechman, Ex. 17]		
DX0392	07-27-2017 Lambeth Magnetic Structures, LLC's First Set of Requests for Admission Nos. 1-8) [02-08-2018 Deposition of Robert Pechman, Ex. 18]		
DX0393	01-31-2018 Seagate's Second Amended Redaction Log (Productions Through 01/31/2018) [02-08-2018 Deposition of Robert Pechman, Ex. 19]		
DX0394	02-09-2018 Plaintiff Lambeth Magnetic Structures, LLC's Second Amended Notice of Deposition Pursuant to Federal Rule of Civil Procedure 30(b)(6) to Defendants [02-15-2018 Deposition of Patrick Shay, Ex. 1]		
DX0395	02-14-2018 Plaintiff Lambeth Magnetic Structures, LLC's Notice of Deposition of Patrick Shay [02-15-2018 Deposition of Patrick Shay, Ex. 2]		
DX0396	02-08-2018 Patrick Shay's LinkedIn profile [02-15-2018 Deposition of Patrick Shay, Ex. 3]		
DX0397	12-14-2011 Seagate Technology Transfer Pricing Analysis and Report: For the Fiscal Year Ended July 1, 2011, prepared by PriceWaterhouseCoopers [02-15-2018 Deposition of Patrick Shay, Ex. 4]	SEA01387872	SEA01387961
DX0398	12-17-2012 Seagate Technology Transfer pricing analysis and report: For the fiscal year ended June 29, 2012, prepared by PriceWaterhouseCoopers [02-15-2018 Deposition of Patrick Shay, Ex. 5]	SEA01387962	SEA01388055

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DX0399	08-02-2017 Seagate's Second Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's First Set of Interrogatories (Nos. 2 & 7) [02-15-2018 Deposition of Patrick Shay, Ex. 6]		
DX0400	07-01-2006 Contract Manufacturing Agreement between Seagate Technology International and Seagate Technology (Ireland) [02-15-2018 Deposition of Patrick Shay, Ex. 7]	SEA01388297	SEA01388305
DX0401	06-30-2007 Contract Manufacturing Agreement between Seagate Technology International and Seagate Technology LLC [02-15-2018 Deposition of Patrick Shay, Ex. 8]	SEA01388341	SEA01388350
DX0402	07-04-2015 Contract Manufacturing Agreement between Seagate Singapore International Headquarters Pte. Ltd. and Seagate Technology LLC [02-15-2018 Deposition of Patrick Shay, Ex. 9]	SEA01388351	SEA01388362
DX0403	07-04-2015 Contract Manufacturing Agreement between Penang Seagate Industries (M) Sdn Bhd and Seagate Technology LLC [02-15-2018 Deposition of Patrick Shay, Ex. 10]	SEA01388363	SEA01388373
DX0404	07-04-2015 Contract Manufacturing Agreement between Seagate Technology (Thailand) Limited and Seagate Technology LLC [02-15-2018 Deposition of Patrick Shay, Ex. 11]	SEA01388374	SEA01388385
DX0405	07-04-2015 Contract Manufacturing Agreement between Seagate Singapore International Headquarters Pte. Ltd. and Seagate Technology (Ireland), Springtown Branch [02-15-2018 Deposition of Patrick Shay, Ex. 12]	SEA01388306	SEA01388317
DX0406	07-04-2015 Contract Manufacturing Agreement between Penang Seagate Industries (M) Sdn Bhd and Seagate Technology (Ireland), Springtown Branch [02-15-2018 Deposition of Patrick Shay, Ex. 13]	SEA01388318	SEA01388328
DX0407	07-04-2015 Contract Manufacturing Agreement between Seagate Technology (Thailand) Limited and Seagate Technology (Ireland), Springtown Branch [02-15-2018 Deposition of Patrick Shay, Ex. 14]	SEA01388329	SEA01388340
DX0408	02-28-2007 Seagate Technology: Economic Analysis of Intercompany Pricing of the Following U.S. Related Transactions of Seagate Technology (U.S.) Holdings, Inc. for the Fiscal Year ended June 30, 2006: Purchases of Disc Drives for U.S. Distribution, Sales of U.S. contract Manufactured Media, and Sales of U.S. Contract Manufactured Wafers, prepared by PriceWaterhouseCoopers Global Transfer Pricing Services [02-15-2018 Deposition of Patrick Shay, Ex. 15]	SEA03337287	SEA03337384
DX0409	12-18-2015 Seagate Technology LLC Transfer pricing benchmarking analysis, prepared by PriceWaterhouseCoopers [02-15-2018 Deposition of Patrick Shay, Ex. 16]	SEA03336691	SEA03336767
DX0410	08-09-2016 Seagate Technology PLC, Fiscal June 2016, Summary of Comparable Sets Prepared by PriceWaterhouseCoopers (executive summary of benchmarking results for U.S. and EMEA, contract manufacturer and distributors) [02-15-2018 Deposition of Patrick Shay, Ex. 17]	SEA03336804	
DX0411	Seagate Transfer Pricing: Average Wafer Lever Slider (SLS) Intercompany Transfer Pricing April 2010 through June 2016 [02-15-2018 Deposition of Patrick Shay, Ex. 18]		
DX0412	06-30-2007 Seagate Technology (Ireland) Transfer pricing report, prepared by PriceWaterhouseCoopers [02-15-2018 Deposition of Patrick Shay, Ex. 19]	SEA03336971	SEA03337050
DX0413	06/00/2003 est. Seagate year-end financial analysis of Division 045 (Normandale RHO accounting ledger); the income and loss statement utilized to identify/segregate manufacturing operations from other entity activities [02-15-2018 Deposition of Patrick Shay, Ex. 20]	SEA03336881	
DX0414	06/00/2006 est. Seagate year-end transfer pricing analysis of Division 045 (Normandale RHO accounting ledger) for Seagate wafer level slider/head manufacturing segment [02-15-2018 Deposition of Patrick Shay, Ex. 21]	SEA03336884	
DX0415	06/00/2016 est. Seagate year-end transfer pricing analysis of Division 045 (Normandale RHO accounting ledger) for Seagate wafer level sliders contract manufacturing operations [02-15-2018 Deposition of Patrick Shay, Ex. 22]	SEA01387726	
DX0416	03/00/2010 est. Q3 FY10 iterative transfer pricing estimate for manufacturing of wafers by Seagate Technology (Ireland) [02-15-2018 Deposition of Patrick Shay, Ex. 23]	SEA01387727	

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DX0417	30(b)(6) deposition preparation chart created by Jesse Yang, with column headings: [Topic #,] Lambeth Topic, Seagate Response, Summary Information, Reference [02-16-2018 Deposition of Jesse Yang, Ex. 1]		
DX0418	02-08-2018 Jesse Yang's LinkedIn profile [02-16-2018 Deposition of Jesse Yang, Ex. 2]		
DX0419	08-04-2017 Seagate Technology PLC Form 10-K (Annual report) Filed 08/04/2017 for the Period Ending 06/30/2017 [02-16-2018 Deposition of Jesse Yang, Ex. 3]		
DX0420	01/00/2018 est. Excel spreadsheet of Seagate HDD (Hard Disk Drive) Sales Data (all years) in native file format [02-16-2018 Deposition of Jesse Yang, Ex. 4]	SEA03336314	
DX0421	01-23-2018 Excel spreadsheet of Seagate External Heads Volume and Pricing History (revision 3) in native file format [02-16-2018 Deposition of Jesse Yang, Ex. 5]	SEA03336536	
DX0422	10-30-2008 Amended and Restated Product Supply and Services Agreement between Seagate Technology LLC and Seagate Singapore International Headquarters Pte Ltd, TDK Corporation, and SAE Magnetics (H.K.) Ltd. [02-16-2018 Deposition of Jesse Yang, Ex. 6]	SEA01912299	SEA01912335
DX0423	12-01-2014 Product Supply Agreement between Seagate Technology LLC and Seagate Singapore International Headquarters Pte Ltd, TDK Corporation, and SAE Magnetics (H.K.) Ltd. [02-16-2018 Deposition of Jesse Yang, Ex. 7]	SEA00091610	SEA00091647
DX0424	01-01-2017 Product Supply Agreement between Seagate Technology LLC and Seagate Singapore International Headquarters Pte Ltd, TDK Corporation, and SAE Magnetics (H.K.) Ltd. [02-16-2018 Deposition of Jesse Yang, Ex. 8]	SEA01042999	SEA01043024
DX0425	06/00/2016 est. Seagate year-end transfer pricing analysis of Division 045 (Normandale RHO accounting ledger) for Seagate wafer level sliders contract manufacturing operations [02-16-2018 Deposition of Jesse Yang, Ex. 9]	SEA01387726	
DX0426	06/00/2015 est. Seagate Technology (Ireland) year-end sales analysis (Division 115 Springtown Northern Ireland RHO) [02-16-2018 Deposition of Jesse Yang, Ex. 10]	SEA01387732	
DX0427	06-21-2016 Seagate Technology (Ireland) Director's report and financial statements for the year ended 30 June 2015 [02-16-2018 Deposition of Jesse Yang, Ex. 11]	SEA01387844	SEA01387871
DX0428	00/00/2011 est. Cost summary of year-end spending incurred related to Seagate Normandale and Springtown wafer fabrications, titled RHO Other Support Allocation [02-16-2018 Deposition of Jesse Yang, Ex. 12]	SEA01043025	SEA01043028
DX0429	00/00/2016 est. Cost summary of year-end spending incurred related to Seagate Normandale and Springtown wafer fabrications, titled RHO Other Support Allocation [02-16-2018 Deposition of Jesse Yang, Ex. 13]	SEA01043104	SEA01043106
DX0430	00/00/2005 est. Printout of Excel spreadsheet titled July 2005 Revenue & Cost of Sales Rec'n [reconciliation?] of Divisions 045 (Normandale RHO), 209, 210-S, and Quantum (WWAR) [02-16-2018 Deposition of Jesse Yang, Ex. 14]	SEA03336887	
DX0431	00/00/2006 est. Presentation slides (pp 25-34) titled Historical and Projected Trends from Q206 Actual & FY06 December Budget [02-16-2018 Deposition of Jesse Yang, Ex. 15]	SEA03337409	SEA03337418
DX0432	02-28-2005 Printout of PDF document produced in native file format titled Competitive Intelligence Report [02-16-2018 Deposition of Jesse Yang, Ex. 16]	SEA02293974	
DX0433	00/00/2013 est. Excel spreadsheet of Seagate database bearing filename NRM_TDT-2013 in native file format; competitive analysis between Seagate and Western Digital [02-16-2018 Deposition of Jesse Yang, Ex. 17]	SEA03057690	
DX0434	08/00/2006 Presentation titled Corporate Overview [02-16-2018 Deposition of Jesse Yang, Ex. 18]	SEA01007381	SEA01007417
DX0435	08-27-2008 Trend Focus report titled Focus On: Technologies for Beyond 1 TB/in2 [02-16-2018 Deposition of Jesse Yang, Ex. 19]	SEA02007789	SEA02007805
DX0436	12-21-2016 Declaration of Prof. Kevin R. Coffey in Support of Plaintiff Lambeth Magnetic Structures, LLC's Opening Claim Construction Brief (W.D. Pa. 2:16cv541, ECF 53-1 (Western Digital)) [01-11-2017 Deposition of Kevin Coffey, Ex. 1]		



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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0437	12-21-2016 Declaration of Prof. Kevin R. Coffey in Support of Plaintiff Lambeth Magnetic Structures, LLC's Opening Claim Construction Brief (W.D. Pa. 2:16cv538, ECF 50-1 (Seagate)) [01-11-2017 Deposition of Kevin Coffey, Ex. 2]		
DX0438	09-15-2016 Declaration of Prof. Kevin R. Coffey in Support of Plaintiff Lambeth Magnetic Structures, LLC's Opening Claim Construction Brief (W.D. Pa. 2:14cv1526, ECF 113-1 (Toshiba)) [01-11-2017 Deposition of Kevin Coffey, Ex. 3]		
DX0439	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [01-11-2017 Deposition of Kevin Coffey, Ex. 4]	LAMBETH-000000001	LAMBETH-000000041
DX0440	12-21-2016 Declaration of Michael D. Sadowitz in Support of Plaintiff Lambeth Magnetic Structures, LLC's Opening Claim Construction Brief (W.D. Pa. 2:16cv541, ECF 53-2 (Western Digital)) [01-11-2017 Deposition of Kevin Coffey, Ex. 5]		
DX0441	Curriculum vitae, Kevin R. Coffey, Ph.D., Professor [01-11-2017 Deposition of Kevin Coffey, Ex. 6]	LAMBETH-000139829	LAMBETH-000139864
DX0442	11-23-1999 U.S. Patent 5,989,728 [01-11-2017 Deposition of Kevin Coffey, Ex. 7]		
DX0443	01-15-2016 Patent Owner's Preliminary Response to Petition for Inter Partes Review of U.S. Patent No. 7,128,988 (Case IPR2016-00013) [01-11-2017 Deposition of Kevin Coffey, Ex. 8]		
DX0444	09/00/1999 Heng Gong, et al., Epitaxial Growth of Quad-Crystal Co-Alloy Magnetic Recording Media, IEEE Transactions on Magnetics, 35:5 2676-78 (Sept. 1999) [01-11-2017 Deposition of Kevin Coffey, Ex. 9]	LAMBETH-000139949	LAMBETH-000139951
DX0445	06-19-2001 Lambeth, Highly Oriented Magnetic Thin Films, Recording Media, Transducers, Devices Made Therefrom and Methods of Making, U.S. Patent 6,248,416 B1 (filed 11/10/1997) (issued 06/19/2001) [01-11-2017 Deposition of Kevin Coffey, Ex. 10]		
DX0446	00/00/1997 Soshin Chikazumi, Physics of Ferromagnetism, 256-66, 334-35 (2nd ed. 1997) [01-11-2017 Deposition of Kevin Coffey, Ex. 11]	LAMBETH-000139939	LAMBETH-000139944
DX0447	00/00/1972 B.D. Cullity, Introduction to Magnetic Materials, 215-17 (1972) [01-11-2017 Deposition of Kevin Coffey, Ex. 12]	LAMBETH-000139920	LAMBETH-000139924
DX0448	06-15-2010 EP Patent No. 1 435 091 B1 prosecution history – applicant's reply in response to official communication dated December 16, 2009 (June 15, 2010) [01-11-2017 Deposition of Kevin Coffey, Ex. 13]		
DX0449	07-16-2014 EP Patent No. 1 435 091 B1 [01-13-2017 Deposition of Kevin Coffey, Ex. 14]	TOSHIBA2203563	TOSHIBA2203618
DX0450	05-02-2018 Initial Expert Report of Dr. Kevin Coffey [08-17-2018 Deposition of Kevin Coffey, Ex. 1]		
DX0451	05-02-2018 Appendix B to Initial Expert Report of Dr. Kevin Coffey: Curriculum Vitae [08-17-2018 Deposition of Kevin Coffey, Ex. 2]		
DX0452	08-03-2018 Reply Expert Report of Dr. Kevin Coffey to the Expert Report of Dr. Eric E. Fullerton [08-17-2018 Deposition of Kevin Coffey, Ex. 3]		
DX0453	07-16-2018 Responsive Expert Report of Dr. Kevin Coffey (invalidity rebuttal report) [08-17-2018 Deposition of Kevin Coffey, Ex. 4]		
DX0454	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [08-17-2018 Deposition of Kevin Coffey, Ex. 5]		
DX0455	12-07-1999 Lian, Redistributing Magnetic Charge in Bias Element for Magnetomechanical EAS Marker, U.S. Patent No. 5,999,098 (filed Feb. 3, 1998) (issued Dec. 7, 1999) [08-17-2018 Deposition of Kevin Coffey, Ex. 6]		
DX0456	05-02-2018 Initial Expert Report of Dr. William Alan Thomas Clark [08-17-2018 Deposition of Kevin Coffey, Ex. 7]		
DX0457	08-03-2018 Reply Expert Report of Dr. William Alan Thomas Clark to the Expert Reports of Dr. Eric Stach and Dr. Eric Fullerton [08-17-2018 Deposition of Kevin Coffey, Ex. 8]		
DX0458	05-02-2018 Excerpted data from Appendix C to Initial Expert Report of Dr. Clark: early dark field run on Seagate SBR8DK [08-17-2018 Deposition of Kevin Coffey, Ex. 9]		
DX0459	Dr. Coffey's recalculation of the anisotropy energy density function, along with data from dark field imaging, for Seagate SBR8DK [08-17-2018 Deposition of Kevin Coffey, Ex. 10]	LMS-SEA0015282	

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0460	Lambeth production report listing metadata (BegBates, EndBates, Custodian, Title, Create Date, Date Last Modified, Filename, Page Count, Document Type) for three documents produced on 08/16/2018: (1) Broken Symmetry S2MMC (LMS-SEA0009277-0011678); (2) Broken Symmetry S03PPC (LMS-SEA0011679-0014080); Broken Symmetry SBR8DK (LMS-SEA0014081-0016482) [08-17-2018 Deposition of Kevin Coffey, Ex. 11]		
DX0461	05-02-2018 Initial Expert Report of Dr. William Alan Thomas Clark [08-16-2018 Deposition of William Clark, Ex. 1]		
DX0462	05-02-2018 Appendix A to Initial Expert Report of Dr. Clark: Materials Considered [08-16-2018 Deposition of William Clark, Ex. 2]		
DX0463	05-02-2018 Appendix B to Initial Expert Report of Dr. Clark: Curriculum Vitae [08-16-2018 Deposition of William Clark, Ex. 3]		
DX0464	08-03-2018 Reply Expert Report of Dr. William Alan Thomas Clark to the Expert Reports of Dr. Eric Stach and Dr. Eric Fullerton [08-16-2018 Deposition of William Clark, Ex. 4]		
DX0465	08-03-2018 Appendix 1 to Reply Expert Report of Dr. Clark: New HREM Images – Aug-1-2018, Microscope CEMAS 80-300 Titan3 Twin [08-16-2018 Deposition of William Clark, Ex. 5]		
DX0466	08-03-2018 Appendix 2 to Reply Expert Report of Dr. Clark: Microscope operating parameters, FEI Tital3 80-300 Twin S/TEM – probe corrected [08-16-2018 Deposition of William Clark, Ex. 6]		
DX0467	11-29-2017 Plaintiff Lambeth Magnetic Structures, LLC's Amended Disclosure of Asserted Claims and Infringement Contentions, with Exhibit A [08-16-2018 Deposition of William Clark, Ex. 7]		
DX0468	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [08-16-2018 Deposition of William Clark, Ex. 8]		
DX0469	06-19-2001 Lambeth, Highly Oriented Magnetic Thin Films, Recording Media, Transducers, Devices Made Therefrom and Methods of Making, U.S. Patent 6,248,416 B1 (filed 11/10/1997) (issued 06/19/2001) [08-16-2018 Deposition of William Clark, Ex. 9]		
DX0470	05-02-2018 Initial Expert Report of Dr. Kevin Coffey [08-16-2018 Deposition of William Clark, Ex. 10]		
DX0471	07-16-2018 Expert Report of Dr. Eric Stach [08-16-2018 Deposition of William Clark, Ex. 11]		
DX0472	05-02-2018 Excerpted data from Appendix C to Initial Expert Report of Dr. Clark: early dark field run on Seagate SBR8DK [08-16-2018 Deposition of William Clark, Ex. 12]		
DX0473	07-16-2018 Excerpt from Exhibit G, to Expert Report of Dr. Eric Stach: analysis of Figure 47 from Dr. Clark's microbeam diffraction work [08-16-2018 Deposition of William Clark, Ex. 13]		
DX0474	07-16-2018 Excerpt from Exhibit G to Expert Report of Dr. Eric Stach: analysis of Figure 49 from Dr. Clark's expert report [08-16-2018 Deposition of William Clark, Ex. 14]		
DX0475	05-02-2018 Excerpted data from Appendix C to Initial Expert Report of Dr. Clark: spreadsheet that contains numbers from analysis outlined in Dr. Clark's expert report at paragraph 114 [08-16-2018 Deposition of William Clark, Ex. 15]		
DX0476	05-02-2018 Excerpted data from Appendix C to Initial Expert Report of Dr. Clark: categorization that Drs. Clark and Coffey conducted for sample S2MMC [08-16-2018 Deposition of William Clark, Ex. 16]		
DX0477	05-02-2018 Excerpted data from Appendix C to Initial Expert Report of Dr. Clark: spreadsheet on which summary at paragraph 200 is based [08-16-2018 Deposition of William Clark, Ex. 17]		
DX0478	07-16-2018 Exhibit C to Expert Report of Dr. Eric Stach: Explanation of Sample Preparation of Seagate [REDACTED] Drive; categorization of diffraction patterns provided with file name for each sample [08-16-2018 Deposition of William Clark, Ex. 18]		
DX0479	08-03-2018 Enlargement of Figure 2 from page 6 of Reply Expert Report of Dr. Clark [08-16-2018 Deposition of William Clark, Ex. 19]		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0480	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [08-22-2018 Deposition of Carolyn Ross, Ex. 1]		
DX0481	05-02-2018 Initial Expert Report of Dr. Caroline A. Ross [08-22-2018 Deposition of Carolyn Ross, Ex. 2]		
DX0482	IEEE Authorship Series: How to Write for Technical Periodicals & Conferences [08-22-2018 Deposition of Carolyn Ross, Ex. 3]		
DX0483	09/00/2000 C. Ross, et al., In-Plane Anisotropy in Arrays of Magnetic Ellipses, IEE Transactions on Magnetics, Vol. 36, No. 5 (September 2000) [08-22-2018 Deposition of Carolyn Ross, Ex. 4]		
DX0484	09/00/2000 C. Ross, et al., Correlation of Stress and Magnetic Anisotropy in CoCrPt/Cr Films Grown on Textured Substrates, IEEE Transactions on Magnetics, Vol. 36, No. 5 (September 2000) [08-22-2018 Deposition of Carolyn Ross, Ex. 5]		
DX0485	08-03-2018 Reply Expert Report of Dr. Caroline A. Ross [08-22-2018 Deposition of Carolyn Ross, Ex. 6]		
DX0486	01-25-2017 List of Materials Reviewed, by Eric Fullerton, filed in support of Seagate's Response to Lambeth's Opening Claim Construction Brief (W.D. Pa., 2:16cv538, ECF-56-15, Chan Decl. Ex 13) [02-06-2017 Deposition of Eric Fullerton, Ex. 1]		
DX0487	01-25-2017 Declaration of Dr. Eric Fullerton in Support of Defendant Seagate's Response to [Lambeth's] Opening Claim Construction Brief (W.D. Pa., 2:16cv538, ECF 56-1) [02-06-2017 Deposition of Eric Fullerton, Ex. 2]		
DX0488	01-25-2017 Curriculum vitae, Eric Edward Fullerton filed in support of Seagate's Response to Lambeth's Opening Claim Construction Brief (W.D. Pa., 2:16cv538, ECF-56-10, Chan Decl. Ex 8) [02-06-2017 Deposition of Eric Fullerton, Ex. 3]		
DX0489	02-04-2017 Center for Memory and Recording Research, f/k/a Center for Magnetic Recording Research, web site printout regarding sponsor benefits ( <a href="http://cmrr.ucsd.edu/sponsors/index.html">http://cmrr.ucsd.edu/sponsors/index.html</a> , printed 02/04/2017) [02-06-2017 Deposition of Eric Fullerton, Ex. 4]		
DX0490	02-04-2017 Center for Memory and Recording Research, f/k/a Center for Magnetic Recording Research, web site printout regarding sponsors ( <a href="http://cmrr.ucsd.edu/sponsors/benefits.html#">http://cmrr.ucsd.edu/sponsors/benefits.html#</a> , printed 02/04/2017) [02-06-2017 Deposition of Eric Fullerton, Ex. 5]		
DX0491	Wikipedia encyclopedia entry for term "Crystal" printout, undated ( <a href="https://cn.wikipedia.org/w/index.php?title=Crystal&amp;oldid=762791421">https://cn.wikipedia.org/w/index.php?title=Crystal&amp;oldid=762791421</a> ) [02-06-2017 Deposition of Eric Fullerton, Ex. 6]		
DX0492	Wikipedia encyclopedia entry for term "File:Crystalline polycrystalline amorphous2.svg" printout, undated ( <a href="https://commons.wikimedia.org/w/index.php?title=File:Crystalline_polycrystalline_amorphous2.svg&amp;oldid=219391202">https://commons.wikimedia.org/w/index.php?title=File:Crystalline_polycrystalline_amorphous2.svg&amp;oldid=219391202</a> ) [02-06-2017 Deposition of Eric Fullerton, Ex. 7]		
DX0493	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [02-06-2017 Deposition of Eric Fullerton, Ex. 8]	LAMBETH-000000001	LAMBETH-000000041
DX0494	00/00/1999 R. Lawrence Comstock, Introduction to Magnetism and Magnetic Recording 48-49 (1999) filed in support of Seagate's Response to Lambeth's Opening Claim Construction Brief (W.D. Pa., 2:16cv538, ECF-56-14, Chan Decl. Ex.12) [02-06-2017 Deposition of Eric Fullerton, Ex. 9]		
DX0495	04-17-1995 Yongsup Park, Eric E. Fullerton, and S.D. Bader, Growth-induced uniaxial in-plane magnetic anisotropy for ultrathin Fe deposited on MgO(001) by oblique-incidence molecular beam epitaxy, Appl. Phys. Lett. 66(16) 2140-2142, Apr. 17, 1995 [02-06-2017 Deposition of Eric Fullerton, Ex. 10]		
DX0496	09-15-1997 Eric E. Fullerton, J.S. Jiang, Christine Rehm, C.H. Sowers, S.D. Bader, J.B. Patel, X.Z. Wu, High coercivity, epitaxial Sm-Co films with uniaxial in-plane anisotropy, J. Appl. Phys. 71(11) 1579-1581, Sept. 15, 1997 [02-06-2017 Deposition of Eric Fullerton, Ex. 11]		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0497	05-15-1994 Eric E. Fullerton, M.J. Conover, J.E. Mattson, C.H. Sowers, S.D. Bader, Orientationally independent antiferromagnetic coupling in epitaxial Fe/Cr(211) and (100) superlattices, 75(1), 6461-6463, J. Appl. Phys., May 15, 1995 [02-06-2017 Deposition of Eric Fullerton, Ex. 12]		
DX0498	12-01-1993 Eric E. Fullerton, M.H. Conover, J.E. Mattson, C.H. Sowers, S.D. Bader, Oscillatory interlayer coupling and giant magnetoresistance in epitaxial Fe/Cr(211) and (100) superlattices, 48(21) 755-763, Physical Review B, Dec. 1, 1993 [02-06-2017 Deposition of Eric Fullerton, Ex. 13]		
DX0499	00/00/2002 R.L. Compton, Michael J. Pechan, S. Maat, Eric E. Fullerton, Probing the magnetic transitions in exchange-biased FePt <sub>3</sub> /Fe bilayers, Physical Review B 66(054411) 1-8, 2002 [02-06-2017 Deposition of Eric Fullerton, Ex. 14]		
DX0500	02-04-2003 S. Maat, A.J. Kellock, D. Weller, J.E.E. Baglin, Eric D. Fullerton, Ferromagnetism of FePt <sub>3</sub> films induced by ion-beam irradiation, 265 1-6, Journal of Magnetism and Magnetic Materials, Feb. 4, 2003 [02-06-2017 Deposition of Eric Fullerton, Ex. 15]		
DX0501	01-15-2016 TDK Corporation v. Lambeth Magnetic Structures LLC, IPR2016-00013, Patent Owner's Preliminary Response to Petition for Inter Partes Review of U.S. Patent No. 7,128,988, Jan. 15.2016, filed in support of Seagate's Response to Lambeth's Opening Claim Construction Brief (W.D. Pa., 2:16cv538, ECF-56-6, Chan Decl. Ex 4) [02-06-2017 Deposition of Eric Fullerton, Ex. 16]		
DX0502	07-16-2018 Expert Report of Dr. Eric E. Fullerton, without exhibits [08-30-2018 Deposition of Eric Fullerton, Ex. 1]		
DX0503	07-16-2018 Exhibit A to Expert Report of Dr. Eric E. Fullerton: Curriculum Vitae [08-30-2018 Deposition of Eric Fullerton, Ex. 2]		
DX0504	07-16-2018 Exhibit B to Expert Report of Dr. Eric E. Fullerton: List of Materials Considered by Eric Fullerton [08-30-2018 Deposition of Eric Fullerton, Ex. 3]		
DX0505	Presentation by Ibroy Tabakovic, Vlad Vas'ko, Venkat Inturi, Steve Riemer and Mark Kief titled Crystal Structure, Stress and Magnetic Properties of Electrodeposited 2.4T CoFe films. Thickness and Substrate Dependence [08-30-2018 Deposition of Eric Fullerton, Ex. 4]	SEA01944075	SEA01944096
DX0506	07-16-2018 Exhibit C to Expert Report of Dr. Eric E. Fullerton: Table showing hard drive components that make a hard drive work [08-30-2018 Deposition of Eric Fullerton, Ex. 5]		
DX0507	07-16-2018 Exhibit D to Expert Report of Dr. Eric E. Fullerton: FFT Diffraction Patterns in Dr. Clark's Appendix C; a comparison of FFT analysis to standard diffraction patterns [08-30-2018 Deposition of Eric Fullerton, Ex. 6]		
DX0508	07-16-2018 Exhibit E to Expert Report of Dr. Eric E. Fullerton: Microdiffraction patterns given in Dr. Clark's report [08-30-2018 Deposition of Eric Fullerton, Ex. 7]		
DX0509	07-16-2018 Exhibit F to Expert Report of Dr. Eric E. Fullerton: Summary of calculation concepts outlined by Dr. Coffey applied to random dataset [08-30-2018 Deposition of Eric Fullerton, Ex. 8]		
DX0510	08-29-2018 Amended Exhibit E to the Expert Report of Dr. Eric Fullerton [08-30-2018 Deposition of Eric Fullerton, Ex. 7]		
DX0511	07-16-2018 Exhibit C to Expert Report of Dr. Eric Stach: Explanation of Sample Preparation of Seagate [REDACTED] Drive; categorization of diffraction patterns provided with file name for each sample [08-30-2018 Deposition of Eric Fullerton, Ex. 9]		
DX0512	00/00/2009 Excerpts: B.D. Cullity & C.D. Graham, Introduction to Magnetic Materials, 2nd Ed., IEEE Press (2009) [08-30-2018 Deposition of Eric Fullerton, Ex. 10]		
DX0513	BCC diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 11]		
DX0514	BCC diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 12]		
DX0515	01/00/2001 Fung, Identification and Determination of Crystal Structures and Orientations by Electron Diffraction, Dept. of Physics, Hong Kong Univ. of Sci. & Tech. (Jan. 2001) [08-30-2018 Deposition of Eric Fullerton, Ex. 13]		
DX0516	Image of transmission electron diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 14]		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0517	00/00/2013 Excerpts from B. Fultz & J. Howe, Transmission Electron Microscopy and Diffractometry of Materials, 4th ed. (2013) [08-30-2018 Deposition of Eric Fullerton, Ex. 15]		
DX0518	00/00/2018 Printout of page from University of California, San Diego, website: Center for Memory and Recording Research, Sponsor tab (© 2018) [08-30-2018 Deposition of Eric Fullerton, Ex. 16]		
DX0519	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [08-30-2018 Deposition of Eric Fullerton, Ex. 17]	LAMBETH-000000001	LAMBETH-000000041
DX0520	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 018A]		
DX0521	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 018B]		
DX0522	18.08.14 CCD Acquire 4T FFT [08-30-2018 Deposition of Eric Fullerton, Ex. 018C]		
DX0523	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 019A]		
DX0524	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 019B]		
DX0525	Frameright5T [08-30-2018 Deposition of Eric Fullerton, Ex. 019C]		
DX0526	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 020A]		
DX0527	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 020B]		
DX0528	18.10.05 CCD Acquire 1T FFT [08-30-2018 Deposition of Eric Fullerton, Ex. 020C]		
DX0529	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 021A]		
DX0530	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 021B]		
DX0531	18.21.37 CCD Acquire 1T FFT [08-30-2018 Deposition of Eric Fullerton, Ex. 021C]		
DX0532	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 022A]		
DX0533	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 022B]		
DX0534	18.21.37 CCD Acquire 2T FFT [08-30-2018 Deposition of Eric Fullerton, Ex. 022C]		
DX0535	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 023A]		
DX0536	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 023B]		
DX0537	18.21.37 CCD Acquire 3T FFT [08-30-2018 Deposition of Eric Fullerton, Ex. 023C]		
DX0538	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 024A]		
DX0539	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 024B]		
DX0540	18.21.37 CCD Acquire 1T FFT [08-30-2018 Deposition of Eric Fullerton, Ex. 024C]		
DX0541	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 025A]		
DX0542	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 025B]		
DX0543	Frameright7T [08-30-2018 Deposition of Eric Fullerton, Ex. 025C]		
DX0544	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 026A]		
DX0545	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 026B]		
DX0546	Frameright21T [08-30-2018 Deposition of Eric Fullerton, Ex. 026C]		
DX0547	Frameright24T [08-30-2018 Deposition of Eric Fullerton, Ex. 027A]		
DX0548	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 027B]		
DX0549	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 027C]		
DX0550	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 028A]		
DX0551	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 028B]		
DX0552	Frameright25T [08-30-2018 Deposition of Eric Fullerton, Ex. 028C]		
DX0553	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 029A]		
DX0554	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 029B]		
DX0555	Frameright31T [08-30-2018 Deposition of Eric Fullerton, Ex. 029C]		
DX0556	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 030A]		
DX0557	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 030B]		
DX0558	Frameright33T [08-30-2018 Deposition of Eric Fullerton, Ex. 030C]		
DX0559	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 031A]		



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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0560	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 031B]		
DX0561	Frameright35T [08-30-2018 Deposition of Eric Fullerton, Ex. 031C]		
DX0562	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 032A]		
DX0563	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 032B]		
DX0564	Frameright41T [08-30-2018 Deposition of Eric Fullerton, Ex. 032C]		
DX0565	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 033A]		
DX0566	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 033B]		
DX0567	Frameright51T [08-30-2018 Deposition of Eric Fullerton, Ex. 033C]		
DX0568	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 034A]		
DX0569	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 034B]		
DX0570	Middle11T [08-30-2018 Deposition of Eric Fullerton, Ex. 034C]		
DX0571	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 035A]		
DX0572	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 035B]		
DX0573	Middle12T [08-30-2018 Deposition of Eric Fullerton, Ex. 035C]		
DX0574	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 036A]		
DX0575	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 036B]		
DX0576	MiddleNi41T [08-30-2018 Deposition of Eric Fullerton, Ex. 036C]		
DX0577	Image of diffraction pattern [08-30-2018 Deposition of Eric Fullerton, Ex. 037A]		
DX0578	Transparency overlay [08-30-2018 Deposition of Eric Fullerton, Ex. 037B]		
DX0579	MiddleNi43T [08-30-2018 Deposition of Eric Fullerton, Ex. 037C]		
DX0580	07-26-1993 Fullerton, et al., Quantitative characterization of epitaxial superlattices by x-ray diffraction and high resolution electron microscopy, Appl. Phys., Lett. 63(4) 482-484, Appendix A 703-712, plus two unnumbered images of standard diffraction pattern for {110}Fcc (1993) [08-30-2018 Deposition of Eric Fullerton, Ex. 38]		
DX0581	07-16-2018 Exhibit A to Expert Report of Dr. Eric Stach: Curriculum Vitae [08-24-2018 Deposition of Eric Stach, Ex. 1]		
DX0582	07-16-2018 Exhibit B to Expert Report of Dr. Eric Stach: List of Materials Considered [08-24-2018 Deposition of Eric Stach, Ex. 2]		
DX0583	07-16-2018 Expert Report of Dr. Eric Stach [08-24-2018 Deposition of Eric Stach, Ex. 3]		
DX0584	07-16-2018 Exhibit C to Expert Report of Dr. Eric Stach: Explanation of Sample Preparation of Seagate [REDACTED] Drive; categorization of diffraction patterns provided with file name for each sample [08-24-2018 Deposition of Eric Stach, Ex. 4]		
DX0585	07-16-2018 Exhibit D to Expert Report of Dr. Eric Stach: Explanation of Sample Preparation of Seagate [REDACTED] Drive [08-24-2018 Deposition of Eric Stach, Ex. 5]		
DX0586	COJYU857 S4_Bright field-annular dark field STEM: two micrographs from sample described in Stach report Exhibit C, which is the [REDACTED] write pole [08-24-2018 Deposition of Eric Stach, Ex. 6]	SEA03350376	
DX0587	COJYU857 S5_Bright field-annular dark field STEM: two micrographs from sample described in Stach report Exhibit D, which is the [REDACTED] write pole [08-24-2018 Deposition of Eric Stach, Ex. 7]	SEA03350377	
DX0588	07-16-2018 Exhibit E to Expert Report of Dr. Eric Stach: FCC Standard Diffraction Patterns and BCC Standard Diffraction Patterns [08-24-2018 Deposition of Eric Stach, Ex. 8]		
DX0589	07-16-2018 Exhibit F to Expert Report of Dr. Eric Stach: FFT Diffraction Patterns in Dr. Clark's Appendix C compared to Sample S0GPPC [08-24-2018 Deposition of Eric Stach, Ex. 9]		
DX0590	07-16-2018 Exhibit G to Expert Report of Dr. Eric Stach: S0GPPC Figures 47-52; S2MMC Figures 77-80; SBR8DK Figures 107-110 [08-24-2018 Deposition of Eric Stach, Ex. 10]		
DX0591	07-16-2018 Exhibit H to Expert Report of Dr. Eric Stach: Simulated bcc Diffraction Rings [08-24-2018 Deposition of Eric Stach, Ex. 11]		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0592	07-16-2018 Amended Exhibit G to Expert Report of Dr. Eric Stach: S0GPPC Figures 47-52; S2MMMC Figures 77-80; SBR8DK Figures 107-110 [08-24-2018 Deposition of Eric Stach, Ex. 12]		
DX0593	00/00/2001 Excerpt from Fultz & Howe, Transmission Electron Microscopy and Diffractometry of Materials (edition unknown; originally published 2001): Chapter 6, Electron Diffraction and Crystallography, pp 274-282 [08-24-2018 Deposition of Eric Stach, Ex. 13]		
DX0594	00/00/1967 Excerpt from Andrews, et al., Interpretation of electron diffraction patterns (edition unknown; originally published 1967): Chapter 5, Geometrical effects, pp 59-67 [08-24-2018 Deposition of Eric Stach, Ex. 14]		
DX0595	00/00/2009 Excerpt from Williams & Carter, Transmission Electron Microscopy, Part 2: Diffraction (2d Ed., 2009), Chapter 2, Scattering and Diffraction, pp 23-38; Chapter 3, Elastic Scattering, pp 39-51; Chapter 16, Diffraction from Crystals, pp 257-269 [08-24-2018 Deposition of Eric Stach, Ex. 15]		
DX0596	00/00/2001 Excerpt from Fultz & Howe, Transmission Electron Microscopy and Diffractometry of Materials (edition unknown; originally published 2001): Chapter 6.3, Kikuchi Lines and Specimen Orientation, pp 290-292 [08-24-2018 Deposition of Eric Stach, Ex. 16]		
DX0597	00/00/2013 Excerpt from Fultz & Howe, Transmission Electron Microscopy and Diffractometry of Materials (4th Ed., 2013), Chapter 7.1.1, Issues in Indexing, pp 290-292 [08-24-2018 Deposition of Eric Stach, Ex. 17]		
DX0598	02-06-2015 Yin, et al., In situ visualization of metallurgical reactions in nanoscale Cu/Sn diffusion couples, Royal Society of Chemistry, Vol. 7, pp 4984-4994 (2015) [08-24-2018 Deposition of Eric Stach, Ex. 18]		
DX0599	06/00/2001 E. Stach, et al., Control and characterization of individual grains and grain boundaries in graphene grown by chemical vapour deposition, Journal of Nature Materials, pp 443-449 (June 2011) [08-24-2018 Deposition of Eric Stach, Ex. 19]		
DX0600	05-02-2018 Expert Report of Catharine M. Lawton (signed 04/30/2018) [08-31-2018 Deposition of Catharine Lawton, Ex. 1]		
DX0601	08-03-2018 Reply Expert Report of Catharine M. Lawton [08-31-2018 Deposition of Catharine Lawton, Ex. 2]		
DX0602	09-07-2018 Corrected Pages 8, 29, 40, and 42 to the August 3, 2018 Reply Expert Report of Catharine M. Lawton		
DX0603	05-02-2018 Initial Expert Report of Dr. Kevin Coffey [08-31-2018 Deposition of Catharine Lawton, Ex. 3]		
DX0604	06-19-1995 License Agreement between Censtor Corp. and Contact Recording Technology, Inc. (CRT) [excerpt from LAMBETH-000254597 – LAMBETH-000254678] [08-31-2018 Deposition of Catharine Lawton, Ex. 4]	LAMBETH-000254664	LAMBETH-000254678
DX0605	12-19-1994 License Agreement between Hitachi, Ltd. and Censtor Corp [excerpt from LAMBETH-000254815 – LAMBETH-000254900] [08-31-2018 Deposition of Catharine Lawton, Ex. 5]	LAMBETH-000254829	LAMBETH-000254900
DX0606	02-14-1995 Censtor Corp. SEC Form 10-Q [08-31-2018 Deposition of Catharine Lawton, Ex. 6]	LAMBETH-000260265	LAMBETH-000260350
DX0607	List of 21 Censtor U.S. Patents With an Effective Filing Date Before 1995, column headings: Patent Number, Title, Application No., Application Date, Earliest Priority Date [08-31-2018 Deposition of Catharine Lawton, Ex. 8]		
DX0608	Censtor Foreign Patents With an Effective Filing Date Before December 1995 [08-31-2018 Deposition of Catharine Lawton, Ex. 9]		
DX0609	07-16-2018 Rebuttal Expert Report of John C. Jarosz [08-31-2018 Deposition of Catharine Lawton, Ex. 10]		
DX0610	08-18-2000 Seagate Research & Development, Q&A with Dr. Mark Kryder – Director of Seagate Research [08-31-2018 Deposition of Catharine Lawton, Ex. 11]	LAMBETH-000257548	LAMBETH-000257549
DX0611	01-19-2006 Seagate F2Q06 (Qtr Ending Dec 30, 2005) Earnings Release Conference Call Transcript (STX) [08-31-2018 Deposition of Catharine Lawton, Ex. 12]	LAMBETH-000263769	LAMBETH000263798
DX0612	09-25-2006 Rick Merritt, Drive makers' heads spinning as they juggle transitions (EE Times) [08-31-2018 Deposition of Catharine Lawton, Ex. 13]	LAMBETH-000262545	LAMBETH-000262548

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DX0613	05-10-2006 Roger Wood and Hisashi Takano, Prospects for Magnetic Recording over the next 10 years (Hitachi Global Storage Technologies) [08-31-2018 Deposition of Catharine Lawton, Ex. 14]	LAMBETH-000255909	LAMBETH-000255941
DX0614	08-10-2006 Analysis: Perpendicular Versus Horizontal Drive Technology (Network Computing) [08-31-2018 Deposition of Catharine Lawton, Ex. 15]	LAMBETH-000259991	
DX0615	02-01-1995 Patent License Agreement between Headway Technologies, Inc. and Seagate Technology, Inc. [08-31-2018 Deposition of Catharine Lawton, Ex. 16]	SEA00527065	SEA00527077
DX0616	09-02-1999 Headway Technologies Inc. (Form: S-1, Received: 09/02/1999 15:33:36), Exhibit 10.2: Seagate Cross License and Know-How Transfer Agreement [08-31-2018 Deposition of Catharine Lawton, Ex. 17]	LAMBETH-000262814	LAMBETH-000262832
DX0617	Chart titled Lawton's Understanding of January 2006 Transcript, with column headings: HDD Size, Write Head Technology, Number of Heads, with two rows filled in: (1) for PMR write head technology; (2) for LMR write head technology [08-31-2018 Deposition of Catharine Lawton, Ex. 18]		
DX0618	10-10-2005 Seagate press release titled: Seagate Delivers New Family of Barracuda Drives With Up to a Massive Half Terabyte of Capacity and Fast 3 Gbit/Second Serial ATA Interface – Seagate ships world's only 9th generation 7200-RPM desktop disc drive with Serial ATA 2.5 [08-31-2018 Deposition of Catharine Lawton, Ex. 19]		
DX0619	12-01-2005 William Wong, Bevy of Computer Parts Adds Up to A Banner Year (Electronic Design – Design of the Year) [08-31-2018 Deposition of Catharine Lawton, Ex. 20]		
DX0620	01-16-2006 Seagate press release titled: Seagate Ships World's First 160GB Notebook PC Hard Drives with Perpendicular Recording Technology [08-31-2018 Deposition of Catharine Lawton, Ex. 21]		
DX0621	Seagate Product Manual, Barracuda 7200.9 Serial ATA [08-31-2018 Deposition of Catharine Lawton, Ex. 22]		
DX0622	Seagate Data Sheet, Momentus 5400.3 [08-31-2018 Deposition of Catharine Lawton, Ex. 23]		
DX0623	Image of finished wafer with rows of heads for hard disk drives, as described in Lawton expert report at p. 175, Fig. 5.25 [08-31-2018 Deposition of Catharine Lawton, Ex. 24]		
DX0624	10-31-2006 Lambeth, Magnetic Material Structures, Devices and Methods, U.S. Patent No. 7,128,988 B2 (filed Aug. 29, 2002) (issued Oct. 31, 2006) [08-31-2018 Deposition of Catharine Lawton, Ex. 25]		
DX0625	03-30-2017 Settlement and Patent License Agreement between Lambeth Magnetic Structures, LLC, David N. Lambeth, and TDK Corporation [08-31-2018 Deposition of Catharine Lawton, Ex. 26]	LAMBETH-000222078	LAMBETH-000222098
DX0626	08-30-2018 Corrected pages 559-567 to 05/02/2018 Expert Report of Catharine M. Lawton (signed 04/30/2018) [08-31-2018 Deposition of Catharine Lawton, Ex. 27]		
DX0627	06-13-1996 Censtor Corp. SEC Form 10-K/A Amendment No. 2 [08-31-2018 Deposition of Catharine Lawton, Ex. 7]	LAMBETH-000275162	LAMBETH-000275182
DX0628	Confidential Option Agreement between Acacia Research Corp. and Microsoft Corp.	ARC0002926	ARC0002949
DX0629	03-29-2012 License and Covenant-Not-To-Sue Agreement between Acacia Research Corp. and Sk Hynix, Inc.	ARC0003223	ARC0003243
DX0630	01-08-2015 Letter from M. Enomoto of Toshiba Corp. to Temen Elecs. Corp. re: Indemnification Request for Patent Lawsuit Brought by Lambeth Magnetic Structures, LLC	SEA03336364	SEA03336365
DX0631	01-09-2015 Email from Takiuchi of Temen Elecs. Corp. to Yohei Nagao of Seagate re: Indemnification	SEA03336366	SEA03336368
DX0632	08-29-2003 Declaration for U.S. Pat. App. 10/415,757 (Dkt. 158-05; Dkt. 162-3)	LAMBETH-000000135	LAMBETH-000000136
DX0633	08-29-2003 USPTO Assignment Records for U.S. Pat. App. 10/415,757 (Dkt. 158-06; Dkt. 162-4)	LAMBETH-000222054	LAMBETH-000222077
DX0634	05-02-2018 Expert Report of Dr. Caroline A. Ross		
DX0635	05-02-2018 Initial Expert Report of Dr. Kevin Coffey and Appendices A-I		
DX0636	07-16-2018 Responsive Expert Report of Dr. Kevin Coffey and Appendices A-C		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0637	08-15-2018 Corrected Page 18 to the Reply Expert Report of Dr. Kevin Coffey		
DX0638	10-01-2018 Declaration of Javier Guzman in Support of Seagate's Motion for Summary Judgment		
DX0639	10-08-2018 Declaration of Keith Slankard in Support of Seagate's Motion for Summary Judgment, with Exhibits A-B		
DX0640	05-29-2013 Substituted Original Complaint with exhibits, Lambeth v. Acacia, May 29, 2013, D.I. 27 (E.D. Tex. 2:13-cv-00194-JRG-RSP)		
DX0641	03-28-2018 SBS Magnetics LLC's Corporate Disclosure Statement, Lambeth v. Acacia, Mar. 28, 2013, D.I. 13 (E.D. Tex., 2:13-cv-00194-JRG-RSP)		
DX0642	05-02-2016 Complaint, Lambeth v. Western Digital, May 2, 2016, D.I. 1 (W.D. Pa., 2:16-cv-00541-CB)		
DX0643	06-24-2016 Third Amended Complaint Jury, Lambeth v. Toshiba, June 24, 2016, D.I. 82 (W.D. Pa., 2:14-cv-01526-CB)		
DX0644	10-09-2015 Plaintiff Lambeth Magnetic Structure, LLC's Disclosure of Asserted Claims and Infringement Contentions, Lambeth v. Toshiba, Sept. 3, 2015, filed in Headway v. Lambeth, Oct. 9, 2015, D.I. 1-4 (W.D. Pa., 2:15-cv-07987-SJO-PLA)		
DX0645	09-21-2016 Plaintiff Lambeth Magnetic Structures, LLC's Disclosure of Asserted Claims and Infringement Contentions, Lambeth v. Western Digital, Sept. 21, 2016 (W.D. Pa., 2:16-cv-00541-CB)		
DX0646	09-01-2016 Plaintiff Lambeth Magnetic Structures, LLC's Responses and Objections to Defendants' First Set of Interrogatories (Nos. 1-6), Lambeth v. Seagate, Sept. 1, 2016, (W.D. Pa., 2:16-cv-00538-CB)		
DX0647	05-16-2017 Seagate's First Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's Second Set of Interrogatories to Seagate Defendants (No. 10), Lambeth v. Seagate, May 16, 2017 (W.D. Pa., 2:16-cv-00538-CB)		
DX0648	12-18-2010 Patent Assignment, Lambeth Systems to SBS Magnetics, LLC	LAMBETH-000222058	LAMBETH-000222061
DX0649	03-02-2011 Email chain, subject line: Re: Re: Acacia	ARC00622	ARC00623
DX0650	11-22-2011 Lambeth Systems mediation statement versus SBS Magnetics LLC	LAMBETH-000235776	LAMBETH-000235790
DX0651	04-29-2011 SBS Magnetics LLC distribution to Lambeth Systems, Apr. 29, 2011	LAMBETH-000244936	LAMBETH-000244938
DX0652	03-10-2011 Letter from P. J. McElhinny (K&L Gates), subject line: Agreement between Lambeth Systems and SBS Magnetics LLC dated December 18, 2010	LAMBETH-000227031	LAMBETH-000227033
DX0653	04-18-2011 Email chain, subject line: RE: FYI	LAMBETH-000227069	LAMBETH-000227070
DX0654	07-01-2011 Email from P. J. McElhinny to Undisclosed recipients, subject line: Acacia/Samsung Agreement – Important Request	LAMBETH-000235491	
DX0655	09-27-2011 Email chain, subject line: RE: Lambeth Systems	LAMBETH-KL-000010	LAMBETH-KL-000018
DX0656	09-27-2010 Email chain, subject line: Re[4]: LS Slides part 3, attaching HDD Business & Record Head Tec Sum Draft A925_1244	ARC0001456	ARC0001476
DX0657	Microsoft Corporation list of hard disk drive vendors, 2010 – 2018	MSFT_SEA000071	
DX0658	Commission Decision (Case No. COMP/M.6214 – Seagate/HDD Business of Samsung), Oct. 19, 2011	SEA02338164	SEA02338288
DX0659	Samsung Electronics America, Inc., United States Net Sales Quantity HDD, Jan. 2011 – Feb. 2012	SEA 00001-A	SEA 00009-A
DX0660	04-19-2011 Asset Purchase Agreement, between Samsung Electronics Co., Ltd. and Seagate	SEA02337812	SEA02337885
DX0661	12-19-2011 Seagate Completes Acquisition of Samsung's Hard Disk Drive Business	SEA02339725	SEA02339728
DX0662	12-19-2011 SEC Form 8-K, Seagate Technology Public Limited Company	SEA02339738	SEA02339742
DX0663	04-19-2011 Intellectual Property Agreement, between Samsung Electronics Co., Ltd. and Seagate	SEA02338282	SEA02338296
DX0664	03-26-2012 Trademark License Agreement, between Samsung Electronics Co., Ltd. and Seagate Technology International	SEA02238178	SEA02238208
DX0665	11-14-2011 Storage Purchase Agreement, between Seagate Technology International and Samsung Electronics Co., Ltd.	SEA02338102	SEA02338112

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0666	08-27-2001 Email from J. Wolf to D.N. Lambeth, subject line: 2 more Pole Figures	LAMBETH-000147576	LAMBETH-000147577
DX0667	12-19-2017 Plaintiff Lambeth Magnetic Structures, LLC's Supplemental Response and Objections to Defendants' Second Set of Interrogatories (No. 10), Lambeth v. Seagate, Dec. 19, 2017, (W.D. Pa., 2:16-cv-00538-CB)		
DX0668	02-01-2017 Lambeth Magnetic Structure, LLC's First Amended and Supplemental Responses and Objections to Defendants' First Set of Interrogatories [Nos. 2, 10, and 13], Lambeth v. Toshiba	LAMBETH-000230938	LAMBETH-000230951
DX0669	09-21-2016 Plaintiff Lambeth Magnetic Structures, LLC's Disclosure of Asserted Claims and Infringement Contentions, Lambeth v. Seagate, Sept. 21, 2016, (W.D. Pa., 2:16-cv-00538-CB)		
DX0670	01-09-2015 Email from Tomen Electronics, attaching letter from Toshiba and First Amended Complaint and Demand for Trial by Jury, Lambeth Magnetic Structures v. Toshiba Corporation, Toshiba America Information Systems, Inc., Toshiba America Electronic Components, inc. and Toshiba of Canada, Ltd.	SEA03336364; SEA03336316	SEA03336368; SEA03336322
DX0671	03-04-2015 Letter from Seagate to Tomen Electronics	SEA03336369	
DX0672	11-08-2018 Declaration of Dr. William Thomas Clark In Support of Plaintiff Lambeth Magnetic Structures, LLC's Opposition to Seagate's Motion for Summary Judgment		
DX0673	06-06-2017 Seagate's Notice of Subpoena Duces Tecum to Microsoft Corporation		
DX0674	11-08-2018 Declaration of Professor Kevin R. Coffey In Support of Plaintiff Lambeth Magnetic Structures, LLC's Opposition to Seagate's Motion for Summary Judgment		
DX0675	07-26-2018 Seagate's Notice of Subpoena Duces Tecum to Acacia Research Corporation		
DX0676	11-16-2017 Seagate's Notice of Subpoena to Testify at Deposition to Acacia Research Corporation Pursuant to Rules 30(b)(6) and 45		
DX0677	U.S Patent No. 6,248,416 B1, Highly Oriented Magnetic Thin Films, Recording Media, Transducers, Devices Made Therefrom and Methods of Making		
DX0678	12-29-2017 Plaintiff Lambeth Magnetic Structures, LLC's Supplemental Response and Objections to Defendants' Third Set of Interrogatories (No. 11), Lambeth v. Seagate, Dec. 29, 2017, (W.D. Pa., 2:16-cv-00538-CB).		
DX0679	12-18-2010 Assignment Agreement, Dec. 18, 2010, between Lambeth Systems and SBS Magnetics LLC.	LAMBETH-000212899	LAMBETH-000212917
DX0680	11-06-2018 Declaration of Keith Slankard in Opposition to Plaintiff's Motion for Summary Judgment, with Exhibit A		
DX0681	11-06-2018 Declaration of Dan Floeder in Opposition to Plaintiff's Motion for Summary Judgment, with Exhibit A		
DX0682	David N. Lambeth web biography for Carnegie Mellon University.		
DX0683	Zangari, et al. publication	SEA00001684	SEA00001687
DX0684	Lee, et al. publication	SEA00000951	SEA00000954
DX0685	Tang, et al. publication	SEA00000971	SEA00000974
DX0686	Yang, et al. publication	SEA00000975	SEA00000979
DX0687	Youping Deng, Crystallographically-oriented CoCrTa thin-film media for high areal density recording, Carnegie Mellon University Ph.D. dissertation		
DX0688	Heng Gong, Development of Highly Oriented Media Structures for Perpendicular Recording, Carnegie Mellon University Ph.D. dissertation	CMU1_003412	CMU1_003584
DX0689	12-01-2014 TDK Agreement, Product Supply and Services Agreement, between Seagate Technology LLC and Seagate Singapore International Headquarters Pte. Ltd., TDK Corporation, and SAE Magnetics (H.K.) Ltd.		
DX0690	10-02-1996 Carnegie Mellon University DSSC Associate Member Board Meeting Minutes		
DX0691	S. Chikazumi, PHYSICS OF FERROMAGNETISM (2nd Ed., 1997) pp. 21, 28 [Caroline A. Ross Expert Report Exhibit L]		
DX0692	03-21-2000 Email from B. Lu to J. Wolf (cc: D. Lambeth) Subject: RE: XRD Phi-scan	LAMBETH-000145046	
DX0693	03-24-2000 Email from B. Lu to D. Lambeth Subject: RE: XRD Phi-scan	LAMBETH-000145048	LAMBETH-000145049



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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0694	Polfig6.doc	LAMBETH-000147344	
DX0695	05-02-2018 Curriculum Vitae of Caroline Anne Ross [Caroline A. Ross Expert Report Exhibit B]		
DX0696	05-02-2018 Expert Trial and Deposition Case List [Caroline A. Ross Expert Report Exhibit C]		
DX0697	H. Gong, W. Yang, M. Rao, D.E. Laughlin, D.N. Lambeth "Epitaxial Growth of Quad-Crystal Co-Alloy Magnetic Recording Media", IEEE TRANSACTIONS ON MAGNETICS, VOL. 35, NO. 5, SEPTEMBER 1999 [Caroline A. Ross Expert Report Exhibit N]		
DX0698	08-27-2001 Email from D. Lambeth to J. Wolf re: JW not at CMU [Caroline A. Ross Expert Report Exhibit V]	LAMBETH-000147579	LAMBETH-000147580
DX0699	N.X. Sun and S. X Wang "Soft High Saturation Magnetization (Fe <sub>0.7</sub> Co <sub>0.3</sub> ) <sub>1-x</sub> N <sub>x</sub> Thin Films for Inductive Write Heads", IEEE TRANSACTIONS ON MAGNETICS, VOL. 36, NO. 5, SEPTEMBER 2000 [Caroline A. Ross Expert Report Exhibit K]		
DX0700	05-02-2018 Summary of Materials Reviewed [Caroline A. Ross Expert Report Exhibit D]		
DX0701	Scan00236.pdf	LAMBETH-000138535	LAMBETH-000138584
DX0702	1/11/2000; 3/24/2000 & 11/1/2000 Emails: B.Lu to D. Lambeth Re: Samples; B.Lu to D. Lambeth Re: XRD Phi-scan; and J. Wolf to D. Lambeth Re: XRD [Caroline A. Ross Expert Report Exhibit JJ]	LAMBETH-000144376, LAMBETH-000145048, LAMBETH-000147332	LAMBETH-000148049
DX0703	11-02-2000 Email string, the most recent message from D. Lambeth to J. Wolf, subject line: Re: Friday XRD Measurements [Caroline A. Ross Expert Report Exhibit AA]	LAMBETH-000147337	
DX0704	04-13-2001 Email string, the most recent message from D. Lambeth to P. Swinehart (Lake Shore Cryotronics), copied to Leo Noel Chapin (Lake Shore Cryotronics), subject line Re: more on EDM [Caroline A. Ross Expert Report Exhibit T]	LAMBETH-000147511	LAMBETH-000147512
DX0705	03-18-2001 Caroline A. Ross Expert Report Exhibit CC	LAMBETH-000147554; LAMBETH-000147573	LAMBETH-000147574
DX0706	08-27-2001 Email from D. Lambeth to J. Wolf, subject line: Re: JW not at CMU, responding to and commenting on message regarding fine-step scans [Caroline A. Ross Expert Report Exhibit DD]	LAMBETH-000147579; LAMBETH-000147581	
DX0707	08-29-2001 Email from D. Lambeth to J. Wolf, subject line Re: How's it going [Caroline A. Ross Expert Report Exhibit II]	LAMBETH000147583	
DX0708	12-02-2014 Prof. David N. Lambeth, Uniaxial Magnetic BCC Thin Films Resulting From Symmetry Broken Structures, Dept. of Elec. & Computer Eng'g, Carnegie Mellon University (draft white paper (2014) [Caroline A. Ross Expert Report Exhibit Z]	LAMBETH-000236420	LAMBETH-000236453
DX0709	01-06-2009 Email from D. Lambeth to Y. Deng Re: Happy Holidays [Caroline A. Ross Expert Report Exhibit FF]	LAMBETH-000243091	LAMBETH-000243093
DX0710	05-02-2018 List of Samples not in the patent [Caroline A. Ross Expert Report Exhibit W]		
DX0711	12-19-2017 LMS Response to Seagate Interrogatory No. 10 [Caroline A. Ross Expert Report Exhibit R]		
DX0712	03-22-2017 Markman Hearing Transcript [Caroline A. Ross Expert Report Exhibit X]		
DX0713	M. Ohring, MATERIALS SCIENCE OF THIN FILMS, (2nd ed. 2002) p. 529 (relevant portions highlighted) [Caroline A. Ross Expert Report Exhibit GG]		
DX0714	M. Ohring, Materials Science of Thin Films, (2nd ed. 2002) pp. 2-8, 12, 95-96, 104, 111-113, 121, 128, 137, 203, 223-232, 239-243, 273, 274-275, 307, 316-322, 336, 647 [Caroline A. Ross Expert Report Exhibit E]		
DX0715	R. Comstock, INTRODUCTION TO MAGNETISM AND MAGNETIC RECORDING (1999) at 48 [Caroline A. Ross Expert Report Exhibit I]		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0716	U.S. Patent No. 6,248,416 [Caroline A. Ross Expert Report Exhibit F]		
DX0717	Zangari et al., Structure and Magnetic Properties of Sm-Co Thin Films on Cr/Ag/Si Templates, Journal of Applied Physics, Vol. 85(8), Apr. 15, 1999, pp. 5759-5761		
DX0718	Cullity, INTRODUCTION TO MAGNETISM AND MAGNETIC MATERIALS (1972), at page 229		
DX0719	08-27-2001 Email J. Wolf to D. Lambeth re: 2 more Pole Figures	LAMBETH-000147577	
DX0720	08-28-2001 Email from J. Wolf to D. Lambeth Subject: Fine scans with attachment	LAMBETH-000147581	
DX0721	11-01-1997 Structural and Magnetic Phase Transitions of Fe on Stepped Cu(111) Physical Review B Volume 56, Number 17	LAMBETH-000254323	LAMBETH-000254332
DX0722	B.D. Cullity and C.D. Graham, Introduction to Magnetic Materials, (2nd ed. 2009); pp. 197-198; 229; 234-238		
DX0723	B. Marchon, T. Pitchford, Y. Hsia, S. Gangopadhyay, "The Head-Disk Interface Roadmap to an Areal Density of 4 Tbit/in <sup>2</sup> ," Advances in Tribology, vol. 2013, Article ID 521086, 2013, available at <a href="https://www.hindawi.com/journals/at/2013/521086/">https://www.hindawi.com/journals/at/2013/521086/</a> )		
DX0724	C.H. Bajorek, "Magnetoresistive (MR) Heads and the Earliest MR Head-Based Disk Drives: Sawmill and Corsair," Computer History Museum, November 2014, p. 2 of 11, available at <a href="http://s3.computerhistory.org/groups/magnetoresistive-heads.pdf">http://s3.computerhistory.org/groups/magnetoresistive-heads.pdf</a> .		
DX0725	10-18-2017 Claim Construction Order		
DX0726	D. Bai, J. Zhu, P. Luo, K. Stoev, F. Liu "Writer Pole Tip Remanence in Perpendicular Recording", IEEE Transactions on Magnetics Vol. 42, No. 3 (March 2006), at 473-480		
DX0727	D. Jiles, INTRODUCTION TO MAGNETISM AND MAGNETIC MATERIALS (2nd ed. 1998)		
DX0728	D. Lambeth, W. Yang, H. Gong, D.E. Laughlin, B. Lu, L. Lee, J. Zou and P.S. Harllee "Magnetic Media Performance: Control Methods for Crystalline Texture and Orientation", Mat. Res. Soc. Symp. Proc. Vol. 517, p. 185 (1998)		
DX0729	Dahmen, Orientation Relationships in Precipitation Systems, Acta Metallurgica, 30(1) 63-73 (1982)) at 63		
DX0730	E. Grochowski, The Continuing Evolution of Magnetic Hard Disk Drives, in HOLOGRAPHIC DATA STORAGE 448 (H.J. Coufal et al. eds., Springer 2000)		
DX0731	E. Hirota, H. Sakakima, K. Inomata, GIANT MAGNETO-RESISTANCE DEVICES 99, (Dr. G. Ertl et al. eds., Springer 2002)		
DX0732	Gotoh, Interpretation of the Epitaxial Orientation Relationship at bcc(110)/fcc(111) Interfaces, Applied Surface Science 33/34 443-49 (1988)), at 443		
DX0733	J.W. Edington, Practical Electron Microscopy in Materials Science, at 32; 44-45; 47; 283-284; 304-306 (1976)		
DX0734	M. Ohring, MATERIALS SCIENCE OF THIN FILMS (2nd ed. 2001) at 3; 5; 316-322; 360-361; 529; 562		
DX0735	M. Takahashi and T. Kono, Magnetic Anisotropy Induced by Magnetic and Stress Annealing in Co, Co-Ni and Co-Fe Alloys, Japanese Journal of Applied Physics Volume 17 Number 2 (1978)		
DX0736	R.C. O'Handley, Modern Magnetic Materials: Principles and Applications, pp. 20-21, 367-368, 374-375, 517-566, 677		
DX0737	Patent Owner's Preliminary Response to IPR2016-00013, at 42-44		
DX0738	S. N. Piramanayagam, M. Shakerzadeh, B. Varghese, H. Tan, "Effect of Carbon Overcoat Implantation on the Magnetic and Structural Properties of Perpendicular Recording Media," IEEE Transactions on Magnetics, Vol. 51, Issue 11, Nov. 2015.)		
DX0739	S. Khizroev & D. Litvinov, PERPENDICULAR MAGNETIC RECORDING 1; 127-128; 144-145; 153 (Kluwer Academic Publishers 2004)		
DX0740	10-28-2003 Seagate Powerpoint: Pioneer- Agenda & Core Team Update	SEA00022942	SEA00022956
DX0741	04-01-2003 Seagate Powerpoint: RHO 3 Year Plan- Dave Brown	SEA00026547	SEA00026603
DX0742	ANL 10- 3 Step Sequence: Pre-Etch, NiFe Seed and FeCo Target 2	SEA00028029	
DX0743	ANL 10- 3 Step Sequence: Pre-Etch, NiFe Seed and FeCo Target 2	SEA00028030	

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0744	12-01-2001 100 GBPSI BTD Feasibility Final Report, Final Program Report, December 2001, Seagate Research Center, Report No. 02-081-01, Collaborative Effort by Research, AdCon, RMO and RHO, Technical Leader: Mark H. Kryder, Program Manager: James E. Williams © 2002	SEA01043148	SEA01043274
DX0745	100 GBPSI BTD Feasibility Final Report: System Integration, Modeling and Testing; Seagate Research Center, Report No. 02-112-01	SEA01043275	SEA01043458
DX0746	100 GBPSI BTD Feasibility Final Report, Single Turn Perpendicular Writer Design, Process and Characterization, Seagate Research Report No. 02-113-01	SEA01043459	SEA01043617
DX0747	100 GBPSI BTD Feasibility Final Report, Perpendicular Media Design, Modeling and Materials Science, Seagate Research Report No. 02-105-01	SEA01043618	SEA01043966
DX0748	100 GBPSI BTD Feasibility Final Report, Perpendicular Media Design, Modeling and Materials Science, Seagate Research Report No. 02-113-02, Report No. 02-105-02	SEA01043967	SEA01044085
DX0749	100 GBPSI BTD Feasibility Final Report, Perpendicular Channels and Signal Processing, Seagate Research Report No. 02-127-01	SEA01044086	SEA01044473
DX0750	09-01-1990 Grain Size Dependence of Coercivity and Permeability in Nanocrystalline Ferromagnets IEEE Transactions on Magnetics, Vol. 26, No. 5, Sept. 1990, pp. 1397-1402	SEA01974948	SEA01974953
DX0751	RHO roadmap for SRC.ppt	SEA02887989	
DX0752	10-15-2012 Seagate Presentation An Introduction to Perpendicular Writers, H. Yin and J. Xue; Writer Design, Transducer Development Team in RHO	SEA03052381	SEA03052502
DX0753	10-04-2013 Seagate Presentation An Introduction to Perpendicular Writers, H. Yin and J. Xue; Writer Design, Transducer Development Team in RHO	SEA03129091	SEA03129220
DX0754	Seagate's First Supplemental Response to LMS's Interrogatory No. 10, Lambeth v. Seagate, May 16, 2017 (W.D. Pa. 2:16-cv-00538-CB)		
DX0755	S.X. Wang and A.M. Taratorin, MAGNETIC INFORMATION STORAGE TECHNOLOGY 171 (Academic Press 1999)		
DX0756	The Discovery of Giant Magnetoresistance, NobelPrize.org, Oct. 9, 2007, p. 2, available at <a href="https://www.nobelprize.org/nobel_prizes/physics/laureates/2007/advanced-physicsprize2007.pdf">https://www.nobelprize.org/nobel_prizes/physics/laureates/2007/advanced-physicsprize2007.pdf</a> .)		
DX0757	T.W. Peterson, "Creating an Innovation Ecosystem," National Science Foundation, 2009, Slide 16 of 28, available at <a href="http://www.nseresearch.org/2009/presentations/Day2_Peterson.ppt">http://www.nseresearch.org/2009/presentations/Day2_Peterson.ppt</a> (Slide 16: "Nickel Aluminum Underlayer Enables High-capacity Memory Storage")		
DX0758	U.S. Patent No. 4,673,996 ("the '996 patent")		
DX0759	U.S. Patent No. 4,702,808 ("the '808 Patent")		
DX0760	U.S. Patent No. 4,825,318 ("the '318 Patent")		
DX0761	U.S. Patent No. 4,949,039 ("the '039 Patent")		
DX0762	U.S. Patent No. 5,693,426 ("the '426 Patent")		
DX0763	U.S. Patent No. 4,423,450 ("the '450 Patent")		
DX0764	U.S. Patent No. 4,751,598 ("the '598 Patent")		
DX0765	U.S. Patent No. 6,320,725 ("the '725 Patent")		
DX0766	U.S. Patent No. 4,860,139 ("the '139 Patent")		
DX0767	U.S. Patent No. 7,914,916 ("the '916 Patent")		
DX0768	X. Shen and R.H. Victora, Effect of Pole Tip Geometry on Remnant Field, Journal of Applied Physics 103, 07F542-1 (2008)		
DX0769	Dr. Eric E. Fullerton Curriculum Vitae [Eric E. Fullerton Expert Report Exhibit A]		
DX0770	B. Fultz and J. Howe, Transmission Electron Microscopy and Diffractometry of Materials, (2013); at 290-292, 306, Appendix A.6		
DX0771	Eric A. Stach Curriculum Vitae [Erich Stach Expert Report Exhibit A]		
DX0772	List of Materials Considered by Eric Stach [Erich Stach Expert Report Exhibit B]		
DX0773	Sample Preparation of Seagate [REDACTED] Drive [Erich Stach Expert Report Exhibit C]		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0774	Sample Preparation of Seagate's [REDACTED] Drive [Erich Stach Expert Report Exhibit D]		
DX0775	Enlargements of standard patterns for fcc and bcc crystals [Erich Stach Expert Report Exhibit E]		
DX0776	"18.21.37 CCD Acquire." [Erich Stach Expert Report Exhibit F]		
DX0777	Analysis of Eight Examples [Erich Stach Expert Report Exhibit G]		
DX0778	Larger patterns of diffraction rings [Erich Stach Expert Report Exhibit H]		
DX0779	K.K. Fung, Identification and Determination of Crystal Structures and Orientations by Electron Diffraction (Jan. 2001), available at: <a href="http://personal.cityu.edu.hk/~appkchu/AP5301/Electron%20Diffraction%20-%20Paper.pdf">http://personal.cityu.edu.hk/~appkchu/AP5301/Electron%20Diffraction%20-%20Paper.pdf</a>		
DX0780	L. Vitos, A.V. Ruban, H.L. Skriver, and J. Kollár, "The Surface Energy of Metals," Surface Science 411 (1998), Table 5		
DX0781	John C. Jarosz Resume [John C. Jarosz Expert Report Tab 1]		
DX0782	Documents Reviewed and/or Relied Upon [John C. Jarosz Expert Report Tab 2]		
DX0783	Seagate Technology PLC Statement of Income FY2002-FY2017 [John C. Jarosz Expert Report Tab 3]		
DX0784	Annual HDD Share By Vendor 2006-2017 [John C. Jarosz Expert Report Tab 4]		
DX0785	Seagate HDD Sales April 2010-December 2017 [John C. Jarosz Expert Report Tab 5.A]		
DX0786	Seagate Internal HGA Demand Estimates Based on HDD Sales and HGA Demand Data April 2010-December 2017 [John C. Jarosz Expert Report Tab 5.B]		
DX0787	Seagate License Agreements [John C. Jarosz Expert Report Tab 6]		
DX0788	Seagate HDD-Related Agreements That Include One-Way Patent Licenses [John C. Jarosz Expert Report Tab 7]		
DX0789	Seagate HDD-Related Agreements That Include One-Way Patent Licenses- Payment Summary Statistics [John C. Jarosz Expert Report Tab 8]		
DX0790	Estimated Lump Sum Payments Based on 2017 LMS-TDK Settlement April 2011-August 2022 [John C. Jarosz Expert Report Tab 9]		
DX0791	Seagate Wafer Level Slider Intercompany Transfer Pricing FY2010-FY2016 [John C. Jarosz Expert Report Tab 10]		
DX0792	Worldwide Shipments Market Share 2000-2018 Q1 [John C. Jarosz Expert Report Tab 11]		
DX0793	Agreements, Allocations, and Valuations '988 Patent and Similar Technologies [John C. Jarosz Expert Report Tab 12]		
DX0794	Agreements, Allocations, and Valuations '988 Patent and Similar Technologies- Adjusted For Inflation to 2006 [John C. Jarosz Expert Report Tab 13]		
DX0795	3-Month Treasury Bill Rate 1993 Q1- 2018 Q2 [John C. Jarosz Expert Report Tab 14]		
DX0796	Censtor Licensee HDD Unit Shipment [John C. Jarosz Expert Report Tab 15]		
DX0797	Wafer Level Slider Units by Internal Product Name April 2010- December 2017 [John C. Jarosz Expert Report Tab 16]		
DX0798	Forward Citation Analysis The '039 Patent and the '988 Patent [John C. Jarosz Expert Report Tab 17]		
DX0799	Agreements, Allocations, and Valuations '988 Patent and Similar Technologies- Inflation Adjustment [John C. Jarosz Expert Report Tab 18]		
DX0800	Prejudgment Interest Based on Three Month Treasury Bill Secondary Market Rate Cumulative Interest Factor [John C. Jarosz Expert Report Tab 19]		
DX0801	"Hard Disk Drive Model Update Post June-Qtr Earnings," RBC Capital Markets, August 10, 2016, at 4.		
DX0802	"NSF Engineering Research Centers – Creating New Knowledge, Innovators and Technologies For Over 30 Years," National Science Foundation, at 6, available at <a href="http://erc-assoc.org/sites/default/files/download-files/ERC%2030th%20anniversary%20brochure.pdf">http://erc-assoc.org/sites/default/files/download-files/ERC%2030th%20anniversary%20brochure.pdf</a> .		
DX0803	07-01-2015 P. Moser, J. Ohmstedt, and P.W. Rhode. "Patent citations and the size of the Inventive Step - Evidence from hybrid corn," No. WP 21443. National Bureau of Economic Research (2015)		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0804	"Seagate and LaCie Announce Completion of the Acquisition of a Controlling Interest in LaCie," available at <a href="https://www.seagate.com/about-seagate/news/seagate-lacie-completion-acquisition-controlling-interest-master-pr/">https://www.seagate.com/about-seagate/news/seagate-lacie-completion-acquisition-controlling-interest-master-pr/</a> (accessed June 14, 2018).		
DX0805	"Seagate Completes Acquisition of Samsung's Hard Disk Drive Business," available at <a href="https://www.seagate.com/about-seagate/news/seagate-completes-aquisition-samsungs-hdd-business-pr/">https://www.seagate.com/about-seagate/news/seagate-completes-aquisition-samsungs-hdd-business-pr/</a>		
DX0806	08-21-2006 "The Hard Disk Drive Industry Overview," A.G. Edwards Analyst Report, August 21, 2006, at 2, 5, 6, 10, 34, 54, 62		
DX0807	"Toshiba and Fujitsu Conclude Definitive Agreement on HDD Business Transfer," available at <a href="http://www.fujitsu.com/global/about/resources/news/press-releases/2009/0430-09.html">http://www.fujitsu.com/global/about/resources/news/press-releases/2009/0430-09.html</a>		
DX0808	"Toshiba to Acquire Fujitsu's Hard-disk Drive Business," available at <a href="https://www.pcworld.com/article/159631/article.html">https://www.pcworld.com/article/159631/article.html</a>		
DX0809	"WD Acquires HGST," available at <a href="https://www.wdc.com/about-wd/newsroom/announcements/wdc-acquires-hgst.html">https://www.wdc.com/about-wd/newsroom/announcements/wdc-acquires-hgst.html</a>		
DX0810	"WD® Completes Acquisition of Hoya's Magnetic Media Operations," available at <a href="https://www.wdc.com/about-wd/newsroom/press-room/2010-06-30-wd-completes-acquisition-of-hoyas-magnetic-media-operations.html">https://www.wdc.com/about-wd/newsroom/press-room/2010-06-30-wd-completes-acquisition-of-hoyas-magnetic-media-operations.html</a>		
DX0811	"Worldwide unit shipments of hard disk drives (HDD) from 1976 to 2020 (in millions)," available at <a href="https://www.statista.com/statistics/398951/global-shipment-figures-for-hard-disk-drives/">https://www.statista.com/statistics/398951/global-shipment-figures-for-hard-disk-drives/</a>		
DX0812	11-14-2017 A. Rakers, J. Quatrochi, and J. Wilhelm, "STX: Resuming Coverage at Market Perform," Wells Fargo Securities, November 14, 2017		
DX0813	Acacia Research Corporation SEC Form 10-K for the fiscal year ended December 31, 2017, at 3.		
DX0814	Amended Infringement Contentions, at 4-21.		
DX0815	Aro Manufacturing Co., Inc., v. Convertible Top Replacement Co., Inc., 377 U.S. 476, 507 (1964) (citing Coupe v. Royer, 155 U.S. 565, 582)		
DX0816	Astrazeneca AB v. Apotex Corp., 782 F.3d 1324, 1337 (Fed. Cir. 2015)		
DX0817	C. Bessy, E. Brousseau, S. Saussier "Payment Schemes in Technology Licensing Agreements: A Transaction Cost Approach," April 31, 2008, available at <a href="http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.416.5989&amp;rep=rep1&amp;type=pdf">http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.416.5989&amp;rep=rep1&amp;type=pdf</a>		
DX0818	B.H. Hall, A.B. Jaffe, M. Trajtenberg. "The NBER Patent Citation Data File: Lessons, Insights and Methodological Tools," No. w8498. National Bureau of Economic Research (2001).		
DX0819	B.H. Hall, A. Jaffe, M. Trajtenberg, "Market Value and Patent Citations," RAND Journal of Economics (2005)		
DX0820	E. Brousseau, C. Chasserant, C. Bessy, R. Coeurderoy "The Diversity of Technology Licensing Agreements and Their Causes," les Nouvelles, December 2005, at 179-200; Mach-Stadler, Ines, et al.		
DX0821	B.W. Butler, "Patent Infringement: Compensation and Damages," Law Journal Press (2009), §4.02.		
DX0822	C. Shapiro, "Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting," Innovation Policy and the Economy, 1 (2000), 119-50, at 125.		
DX0823	C.B. Seaman, "Reconsidering the Georgia-Pacific Standard for Reasonable Royalty Patent Damages," 2010 BYU Law Review, No. 5, at 1661 (available at <a href="http://ssrn.com/abstract=1575805">http://ssrn.com/abstract=1575805</a> ).		
DX0824	C.E. Johnson, Jr., L.B. Lueck, "A History of Perpendicular Magnetic Recording in the United States," Journal of the Magnetism Society of Japan, 1989, 49-52, available at <a href="https://www.jstage.jst.go.jp/article/jmsjmag/13/S_1_PMRC_89/13_S_1_PMRC_89_S1_49/_pdf">https://www.jstage.jst.go.jp/article/jmsjmag/13/S_1_PMRC_89/13_S_1_PMRC_89_S1_49/_pdf</a> .)		
DX0825	Comcast Cable Communs., LLC v. Sprint Communs. Co., LP, 218 F. Supp. 3d 375, 382-384 (E.D. Penn. 2016)		
DX0826	Complaint and Demand for Trial by Jury, Lambeth v. Seagate, April 29, 2016, (W.D. Pa., 2:16-cv-00538-CB)		



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DX0827	Lambeth Pretrial Statement, Lambeth v. Seagate, January 31, 2020, (W.D. Pa., 2:16-cv-00538-CB)		
DX0828	Convolve, Inc. and Massachusetts Institute of Technology v. Compaq Computer Corp. and Seagate Technology, LLC, Civil Docket No. 1:00-cv-05141-GBD-JCF (S.D. N.Y.), Dkt. 1062-4 (Fourth Supplemental Expert Report of Michael J. Wagner dated August 15, 2011, Schedule 1s, Schedule 3.2, Schedule 5.2)		
DX0829	Convolve, Inc. v. Dell, Inc., et al., Civil Docket No. 2:08-CV-244 (E.D. Tex.), Dkt. 523 (Jury Verdict Form).		
DX0830	Convolve, Inc. v. Dell, Inc., et al., Civil Docket No. 2:08-CV-244 (E.D. Tex.), Dkt. 552 (Trial Transcript, July 20, 2011 (Trial Day 4) – Bruce McFarlane, Direct), 44:18-44:22, 59:3-60:13, 60:21-61:12, 63:5-18, 70:6-71:22; 73:7-74:5		
DX0831	D.J. Teece, "Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing, and Public Policy," Research Policy, Vol. 15 (1986), 285-305		
DX0832	D. Harhoff, F. Narin, F.M. Scherer, and K. Vopel, "Citation Frequency and the Value of Patented Inventions," Review of Economics and Statistics 81.3 (1999), pp. 511-15		
DX0833	D. Harhoff, F. Scherer, and K. Vopel, "Citation, Family size, Opposition and the Value of Patent Rights," Research Policy, 1596 (2002)		
DX0834	Dowagiac Mfg. Co. v. Minnesota Moline Plow Co., 235 U.S. 641 (1915)		
DX0835	E. Parker, "Data and Cloud Infrastructure: Seagate Technology PLC," BTIG, October 6, 2016, at 3.		
DX0836	E.E. Fullerton and J.R. Childress, "Spintronics, Magnetoresistive Heads, and the Emergence of the Digital World," Proceedings of IEEE, Vol. 104, No. 10, at 1788 (Oct. 2016).		
DX0837	N. Falk, K. Train, "Patent Valuation with Forecasts of Forward Citations", Journal of Business Valuation and Economic Loss Analysis 12.1 (2017): 101-21, at 1-2.		
DX0838	Faulkner v. Gibbs, 199 F.2d 635 (9th Cir. 1952)		
DX0839	Fromson v. Western Litho Plate and Supply Co., 853 F.2d 1568, 1575 (Fed. Cir. 1988)		
DX0840	Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116 (S.D.N.Y. 1970), modified and aff'd, 446 F.2d 295 (2d Cir. 1971).		
DX0841	G. V. Smith, R.L. Parr, Valuation of Intellectual Property and Intangible Assets, 151-73 (John Wiley & Sons 2000)		
DX0842	Grain Processing v. American Maize-Products Co., 185 F.3d 1341, 1347 (Fed. Cir. 1999)		
DX0843	Hanson v. Alpine Valley Ski Area, Inc., 718 F.2d 1075, 1078 (Fed. Cir. 1983)		
DX0844	E. Hirota, H. Sakakima, K. Inomata (2002) "Physics of GMR and TMR Devices." Giant Magneto-Resistance Devices. Springer Series in Surface Sciences, Vol. 40. Springer, Berlin, Heidelberg, at 11.		
DX0845	<a href="http://hddscan.com/doc/HDD_from_inside.html">http://hddscan.com/doc/HDD_from_inside.html</a>		
DX0846	<a href="http://www.computerhistory.org/storageengine/magnetoresistive-read-head-hdd-introduced/">http://www.computerhistory.org/storageengine/magnetoresistive-read-head-hdd-introduced/</a>		
DX0847	<a href="http://www.computerhistory.org/storageengine/perpendicular-magnetic-recording-arrives/">http://www.computerhistory.org/storageengine/perpendicular-magnetic-recording-arrives/</a>		
DX0848	<a href="http://www.computerhistory.org/storageengine/software-increases-hardware-areal-density/">http://www.computerhistory.org/storageengine/software-increases-hardware-areal-density/</a>		
DX0849	<a href="http://www.infoentrepreneurs.org/en/product-licensing/">http://www.infoentrepreneurs.org/en/product-licensing/</a>		
DX0850	<a href="http://www.ip4inno.eu/index.php?id=184&amp;L=1">http://www.ip4inno.eu/index.php?id=184&amp;L=1</a>		
DX0851	<a href="http://www.patentbuddy.com/Patent/7128988">http://www.patentbuddy.com/Patent/7128988</a>		
DX0852	<a href="http://www.patentdocs.org/2016/02/convolve-inc-v-compaq-computer-corp-fed-cir-2016.html">http://www.patentdocs.org/2016/02/convolve-inc-v-compaq-computer-corp-fed-cir-2016.html</a>		
DX0853	<a href="http://www.pcguide.com/ref/hdd/geom/dataEPRML-c.html">http://www.pcguide.com/ref/hdd/geom/dataEPRML-c.html</a>		
DX0854	<a href="http://www.storagereview.com/ssd_vs_hdd">http://www.storagereview.com/ssd_vs_hdd</a>		
DX0855	<a href="https://general-animagraffs.netdna-ssl.com/wp-content/uploads/platters-spindle-1.png">https://general-animagraffs.netdna-ssl.com/wp-content/uploads/platters-spindle-1.png</a>		
DX0856	<a href="https://general-animagraffs.netdna-ssl.com/wp-content/uploads/case-1.png">https://general-animagraffs.netdna-ssl.com/wp-content/uploads/case-1.png</a>		
DX0857	<a href="https://general-animagraffs.netdna-ssl.com/wp-content/uploads/how-hard-disk-drives-work-1.png">https://general-animagraffs.netdna-ssl.com/wp-content/uploads/how-hard-disk-drives-work-1.png</a>		

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DX0858	<a href="https://hddmag.com/top-x-largest-hard-drives/">https://hddmag.com/top-x-largest-hard-drives/</a>		
DX0859	<a href="https://phys.org/news/2005-08-toshiba-ships-40gb-inch-perpendicular.html">https://phys.org/news/2005-08-toshiba-ships-40gb-inch-perpendicular.html</a>		
DX0860	<a href="https://portal.unifiedpatents.com/litigation/profile/2:14-cv-01526/Pennsylvania%20Western%20District%20Court">https://portal.unifiedpatents.com/litigation/profile/2:14-cv-01526/Pennsylvania%20Western%20District%20Court</a>		
DX0861	<a href="https://social.technet.microsoft.com/wiki/contents/articles/13267.anatomy-of-hard-disk-drives-a-deep-look-into-hard-drives.aspx">https://social.technet.microsoft.com/wiki/contents/articles/13267.anatomy-of-hard-disk-drives-a-deep-look-into-hard-drives.aspx</a>		
DX0862	<a href="https://www.acer-group.com/ag/en/TW/content/history">https://www.acer-group.com/ag/en/TW/content/history</a>		
DX0863	<a href="https://www.asus.com/About_ASUS/Company-Introduction">https://www.asus.com/About_ASUS/Company-Introduction</a>		
DX0864	<a href="https://www.backblaze.com/blog/hard-drive-cost-per-gigabyte/">https://www.backblaze.com/blog/hard-drive-cost-per-gigabyte/</a>		
DX0865	<a href="https://www.bhphotovideo.com/explora/computers/tips-and-solutions/anatomy-hard-drive">https://www.bhphotovideo.com/explora/computers/tips-and-solutions/anatomy-hard-drive</a>		
DX0866	<a href="https://www.computerworld.com/article/2585698/data-center/anatomy-of-a-hard-disk.html">https://www.computerworld.com/article/2585698/data-center/anatomy-of-a-hard-disk.html</a>		
DX0867	<a href="https://www.dssc.ece.cmu.edu/">https://www.dssc.ece.cmu.edu/</a>		
DX0868	<a href="https://www.dssc.ece.cmu.edu/research/patents.html">https://www.dssc.ece.cmu.edu/research/patents.html</a>		
DX0869	<a href="https://www.ftc.gov/sites/default/files/documents/reports/evolving-ip-marketplace-aligning-patent-notice-and-remedies-competition-report-federal-trade/110307patentreport.pdf">https://www.ftc.gov/sites/default/files/documents/reports/evolving-ip-marketplace-aligning-patent-notice-and-remedies-competition-report-federal-trade/110307patentreport.pdf</a>		
DX0870	<a href="https://www.global.tdk.com/corp/en/about_tdk/our_history/index.htm">https://www.global.tdk.com/corp/en/about_tdk/our_history/index.htm</a>		
DX0871	<a href="https://www.gpo.gov/fdsys/pkg/USCODE-2011-title35/html/USCODE-2011-title35-partIII-chap28-sec271.htm">https://www.gpo.gov/fdsys/pkg/USCODE-2011-title35/html/USCODE-2011-title35-partIII-chap28-sec271.htm</a>		
DX0872	<a href="https://www.gpo.gov/fdsys/pkg/USCOURTS-tned-3_04-cv-00020/pdf/USCOURTS-tned-3_04-cv-00020-5.pdf">https://www.gpo.gov/fdsys/pkg/USCOURTS-tned-3_04-cv-00020/pdf/USCOURTS-tned-3_04-cv-00020-5.pdf</a>		
DX0873	<a href="https://www.irs.gov/pub/irs-pdf/i709.pdf">https://www.irs.gov/pub/irs-pdf/i709.pdf</a>		
DX0874	<a href="https://www.linkedin.com/in/jesse-yang-b0a01a4/">https://www.linkedin.com/in/jesse-yang-b0a01a4/</a>		
DX0875	<a href="https://www.linkedin.com/in/mattjhadley/">https://www.linkedin.com/in/mattjhadley/</a>		
DX0876	<a href="https://www.nobelprize.org/nobel_prizes/physics/laureates/2007/popular-physicsprize2007.pdf">https://www.nobelprize.org/nobel_prizes/physics/laureates/2007/popular-physicsprize2007.pdf</a>		
DX0877	<a href="https://www.nobelprize.org/nobel_prizes/physics/laureates/2007/press.html">https://www.nobelprize.org/nobel_prizes/physics/laureates/2007/press.html</a>		
DX0878	<a href="https://www.pcworld.com/article/127105/article.html">https://www.pcworld.com/article/127105/article.html</a>		
DX0879	<a href="https://www.pwc.com/gx/en/international-transfer-pricing/assets/itp-2013-final.pdf">https://www.pwc.com/gx/en/international-transfer-pricing/assets/itp-2013-final.pdf</a> , at 18, 62		
DX0880	<a href="https://www.seagate.com/about-seagate/news/seagate-named-2006-company-of-the-Year-by-forbes-magazine-master-pr/">https://www.seagate.com/about-seagate/news/seagate-named-2006-company-of-the-Year-by-forbes-magazine-master-pr/</a>		
DX0881	<a href="https://www.seagate.com/about-seagate/news/seagate-wins-company-of-the-year-and-best-product-innovation-arc-awards-from-varbusiness-magazine-master-pr/">https://www.seagate.com/about-seagate/news/seagate-wins-company-of-the-year-and-best-product-innovation-arc-awards-from-varbusiness-magazine-master-pr/</a>		
DX0882	<a href="https://www.seagate.com/about-seagate/seagate-history/">https://www.seagate.com/about-seagate/seagate-history/</a>		
DX0883	<a href="https://www.seagate.com/tech-insights/choosing-high-performance-storage-is-not-about-rpm-anymore-master-ti/">https://www.seagate.com/tech-insights/choosing-high-performance-storage-is-not-about-rpm-anymore-master-ti/</a>		
DX0884	<a href="https://www.technologyreview.com/s/408812/hard-drive-advance-wins-the-nobel-prize/">https://www.technologyreview.com/s/408812/hard-drive-advance-wins-the-nobel-prize/</a>		
DX0885	<a href="https://www.uspto.gov/web/patents/classification/uspc324/defs324.htm">https://www.uspto.gov/web/patents/classification/uspc324/defs324.htm</a>		
DX0886	<a href="https://www.uspto.gov/web/patents/classification/uspc428/defs428.htm">https://www.uspto.gov/web/patents/classification/uspc428/defs428.htm</a>		
DX0887	<a href="https://www.uspto.gov/web/patents/classification/uspc428/sched428.pdf">https://www.uspto.gov/web/patents/classification/uspc428/sched428.pdf</a>		
DX0888	<a href="https://www.washingtonpost.com/local/obituaries/peter-gruenberg-nobel-winning-scientist-who-advanced-computer-technology-dies-at-78/2018/04/10/daa578d0-3c2e-11e8-8d53-eba0ed2371cc_story.html">https://www.washingtonpost.com/local/obituaries/peter-gruenberg-nobel-winning-scientist-who-advanced-computer-technology-dies-at-78/2018/04/10/daa578d0-3c2e-11e8-8d53-eba0ed2371cc_story.html</a> (accessed July 10, 2018).		
DX0889	<a href="https://www.youtube.com/watch?v=dVpi0-uqtDA">https://www.youtube.com/watch?v=dVpi0-uqtDA</a>		
DX0890	<a href="https://www3.lenovo.com/us/en/lenovo/company-history/">https://www3.lenovo.com/us/en/lenovo/company-history/</a> (accessed July 10, 2018).		
DX0891	Intel Corp. v. Future Link Sys., LLC, No. 14-377, 2017 U.S. Dist. LEXIS 91699, at 9-16 (D. Del. June 8, 2017)		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0892	IP Innovation L.L.C. v. Red Hat, Inc., 705 F. Supp. 2d 687, 689, 2010 U.S. Dist. LEXIS 28372 (E.D. Tex. 2010) (citing Grain Processing Corp. v. Am. Maize-Prods. Co., 185 F.3d 1341, 1350 (Fed. Cir. 1999)) (citing Riles v. Shell Exploration & Production Co., 298 F.3d 1302, 1311 (Fed. Cir. 2002))		
DX0893	J. Dedrick, K.L. Kraemer, "Who Captures Value from Science- Based Innovation? The Distribution of Benefits from GMR in the Hard Disk Drive Industry," Research Policy, Vol. 44 (2015), 1615-28, at 1615, 16, 18-21, 23-25.		
DX0894	J.C. Jarosz, M.J. Chapman, "The Hypothetical Negotiation and Reasonable Royalty Damages: The Tail Wagging the Dog," 16 Stanford Technology Law Review 769 (Spring 2013), at 813.		
DX0895	"Seagate Technology PLC: PC Declines and Next Generation Flash Coming – Initiate with a Sell" UBS Global Research, September 10, 2015		
DX0896	J. Farrell, J. Hayes, C. Shapiro, T. Sullivan "Standard Setting, Patents, and Hold-Up," Antitrust Law Journal, Vol. 74, No. 3 (2007), 603-70, at 603-04.		
DX0897	"Initiation: Revamped Cost Structure Weathers Storm; Growth Remains Elusive," Cowen and Company, April 11, 2016, at 15-16.		
DX0898	Lambeth Magnetic Structures, LLC v. Toshiba Corporation, et al., Civ. No. 2:14-cv-01526-CB (W.D. Pa.), Dkt. 82		
DX0899	Lambeth Magnetic Structures, LLC v. Toshiba Corporation, et al., Civ. No. 2:14-cv-01526-CB (W.D. Pa.), Dkt. No. 172		
DX0900	Lambeth Magnetic Structures, LLC v. Toshiba Corporation, et al., Civ. No. 2:14-cv-01526-CB (W.D. Pa.), Dkt. No. 1		
DX0901	Censtor 10-K 6-30-1995_Contact Recording Technology License.pdf at LAMBETH-000254598, 4601, 4602, 4608, 4625, 4664-4676	LAMBETH-000254597	LAMBETH-000254678
DX0902	Censtor 10-KA 6-30-1995_Discusses NEC and Minsistor Licenses.pdf at LAMBETH-000254683	LAMBETH-000254679	LAMBETH-000254746
DX0903	Censtor 10-KA Amendment No 2 6-30-1995_IBM, Fujitsu, Maxtor, Kagaku, NEC Licenses.pdf at LAMBETH-000254751, 4788-4814	LAMBETH-000254747	LAMBETH-000254814
DX0904	Censtor 10-Q 12-31-1994_Hitachi License.pdf at LAMBETH-000254820-4821, 4823	LAMBETH-000254815	LAMBETH-000254900
DX0905	Censtor 10-K 6-30-1995 Filed September 28, 1995.pdf at LAMBETH-000260120.	LAMBETH-000260115	LAMBETH-000260196
DX0906	Censtor Corp. 10-KA Amendment No. 2 June 11, 1996.pdf at LAMBETH-000260358.	LAMBETH-000260351	LAMBETH-000260376
DX0907	Censtor Corp. Form 10.pdf at LAMBETH-000260378, 0380-0381, 0384-0386, 0391, 0440, 0582-0626; 0633, 0745-0772	LAMBETH-000260377	LAMBETH-000260794
DX0908	Headway Technologies Inc S1 filed September 2 1999.pdf at LAMBETH-000262818, 2832	LAMBETH-000262599	LAMBETH-000263084
DX0909	Censtor 10-K 6-30-1995 Filed September 28, 1995.pdf at LAMBETH-000275988	LAMBETH-000275988	LAMBETH-000275999
DX0910	Censtor Corp. 10-K for the period ended June 30, 1996.pdf at LAMBETH-000276157	LAMBETH-000276154	LAMBETH-000276217
DX0911	Censtor Corp. 10-KA filed on November 26, 1996.pdf at LAMBETH-000276220, 6258-6259	LAMBETH-000276218	LAMBETH-000276289
DX0912	Censtor Corp. 10-Q for the period ended December 31, 1997.pdf at LAMBETH-000276297	LAMBETH-000276290	LAMBETH-000276305
DX0913	Censtor Corp. Def 14A filed July 1, 1996.pdf at LAMBETH-000276353	LAMBETH-000276331	LAMBETH-000276410
DX0914	Censtor Corp. Schedule 14A filed July 1, 1996.pdf at LAMBETH-000276847, 6852	LAMBETH-000276829	LAMBETH-000276908
DX0915	Statement regarding IRS Form 709 Gifts to Joel and Dawn Lambeth	LAMBETH-000310374	
DX0916	IRS Form 709- United States Gift (and Generation-Skipping Transfer) Tax Return- David Lambeth	LAMBETH-000310375	LAMBETH-000310379
DX0917	IRS Form 709- United States Gift (and Generation-Skipping Transfer) Tax Return- Virginia Lambeth	LAMBETH-000310380	LAMBETH-000310384

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0918	IRS Form 1065- U.S. Return of Partnership Income- Lambeth Magnetic Structures, LLC	LAMBETH-000310385	LAMBETH-000310396
DX0919	L. Kogan, D. Papanikolaou, A. Seru, N. Stoffman, "Technological Innovation, Resource Allocation, and Growth," The Quarterly Journal of Economics 132, no. 2 (2017): 665- 712.		
DX0920	Lucent Techs., Inc., et al v. Gateway, Inc., et al., 580 F.3d 1301, 1324-1326 (Fed. Cir. 2009).		
DX0921	I. Mach-Stadler, X. Martinez-Giralto, J.D. Perez-Castrillo, "The Role of Information in Licensing Contract Design," Research Policy, 25 (1996), pp. 43-57		
DX0922	M.A. Lemley and C. Shapiro, "Patent Holdup and Royalty Stacking," Texas Law Review Vol. 85 (2007), 1991-2049, at 1991, 2010-2014		
DX0923	Mobil Oil Corp. v. Amoco Chemicals Corp., 915 F. Supp. 1333, 1344 (D. Del. 1994)		
DX0924	Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1223 (Fed. Cir. 1995).		
DX0925	Panduit Corp. v. Stahl Bros. Fibre Works, Inc., 575 F.2d 1152 (6th Cir. 1978)		
DX0926	P.M. Janicke, "Contemporary Issues in Patent Damages," 42 AM. UNIV. L.R. 691, 722-24 (Spring 1993).		
DX0927	Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., No. 2016-2691, 2018 WL 3233107, at *10 F.3d (Fed. Cir. July 3, 2018)		
DX0928	ResQNet.com, Inc., v. Lansa, Inc., 594 F.3d 860, 869 (Fed. Cir. 2010)		
DX0929	R. Farrance, "Timeline: 50 Years of Hard Drives," PCWorld, available at <a href="https://www.pcworld.com/article/127105/article.html">https://www.pcworld.com/article/127105/article.html</a>		
DX0930	R.F. Cauley, "Winning the Patent Damages Case", Oxford University Press (2009), pp. 7, 12.		
DX0931	Riles v. Shell Exploration and Production Co., 298 F.3d 1302, 1311 (Fed. Cir. 2002)		
DX0932	R. Cihra and E. Yu, "Seagate Technology, Initiating Coverage with a Neutral Rating, \$50PT; Not Enough Upside Yet" Sterne Agee CRT, September 28, 2015, p. 14		
DX0933	R.F. Reilly and R.P. Schweihs, "Valuing Intangible Assets" (McGraw-Hill 1999) pp. 95-202		
DX0934	MakaraPlusRoute_FB_1F23C32SX530.xls	SEA00027728	
DX0935	GrenadaBP_Wafer_Build_Route.xls	SEA00027730	
DX0936	Boulder Route (CH).xls	SEA00027731	
DX0937	12-21-2001 License Agreement between Syndia and Seagate Technology Holdings at SEA00184217-4218 and 4223	SEA00184216	SEA00184223
DX0938	Seagate Heads Income Statement FYE 7/3/2015	SEA01387725	
DX0939	DF-Yellowjacket-FB_YYJHMRB96LBLS38-ALOBMP.XLS	SEA03148728	
DX0940	Seagate Patent Status Spreadsheet 2000-2016	SEA03336139	SEA03336269
DX0941	GMR HDD Sales FY2000-2007, FY2008.xls	SEA03341834	
DX0942	Seagate Tech., Inc. v. Commissioner, 102 T.C. 149, 156, 159-160, 172-173, 245, 251-255, 257-260, 281, Section 5 (1994).		
DX0943	Seagate Technology PLC SEC Form 10-K for the fiscal year ended June 27, 2003, p. 9		
DX0944	Seagate Technology PLC SEC Form 10-K for the fiscal year ended June 30, 2006, pp. 5-6		
DX0945	Seagate Technology PLC SEC Form 10-K for the fiscal year ended June 30, 2008, p. 7		
DX0946	Seagate Technology PLC SEC Form 10-K for the fiscal year ended June 30, 2015, p. 7		
DX0947	Seagate Technology PLC SEC Form 10-K for the fiscal year ended June 30, 2017 pp. 8-9, Exhibit 21.1		
DX0948	Seagate's Second Supplemental Objections and Answers to Lambeth Magnetic Structures, LLC's Second Set of Interrogatories to Seagate Defendants (No. 7), August 2, 2017 (W.D. Pa. 2:16-cv-00538-CB)		
DX0949	<a href="http://www.storagereview.com/ssd_vs_hdd">http://www.storagereview.com/ssd_vs_hdd</a> and <a href="https://flashdba.com/2014/06/06/understanding-flash-what-is-nand-flash/">https://flashdba.com/2014/06/06/understanding-flash- what-is-nand-flash/</a>		
DX0950	S.P. Pratt, R.F. Reilly and R.P. Schweihs, Valuing a Business: The Analysis and Appraisal of Closely Held Companies, 151-258 (McGraw Hill 2000)		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX0951	Siemens AG v. Seagate Technology, LLC, Case No. 8:06-cv-00788-JVS-AN (C.D. Cal.), Dkt. 780 (Trial Transcript, December 4, 2008), 59:10-15; 65:12-19; and 72:1-8		
DX0952	Siemens AG v. Seagate Technology, LLC, Case No. 8:06-cv-00788-JVS-AN (C.D. Cal.), Dkt. 780 (Trial Transcript, December 4, 2008), 59:10-15; 65:12-19; and 72:1-8		
DX0953	Siemens AG v. Seagate Technology, LLC, Case No. 8:06-cv-00788-JVS-AN (C.D. Cal.), Dkt. 780 (Trial Transcript, December 5, 2008): 38:7-20		
DX0954	Siemens AG v. Seagate Technology, LLC, Case No. 8:06-cv-00788-JVS-AN (C.D. Cal.), Dkt. 780 (Trial Transcript, December 5, 2008): 38:7-20		
DX0955	Siemens AG v. Seagate Technology, LLC, Case No. 8:06-cv-00788-JVS-AN (C.D. Cal.), Dkt. 780 (Trial Transcript, November 21, 2008), 134:11-12		
DX0956	Siemens AG v. Seagate Technology, LLC, Case No. 8:06-cv-00788-JVS-AN (C.D. Cal.), Dkt. 780 (Trial Transcript, November 21, 2008), 134:11-12		
DX0957	Stickle v. Heublein, Inc., 716 F.2d 1550 (Fed. Cir. 1983)		
DX0958	M. Trajtenberg, "A Penny for Your Quotes: Patent Citations and the Value of Innovations," The Rand Journal of Economics, Vol. 21, No. 1 (Spring, 1990) pp. 172-187		
DX0959	Trell v. Marlee Electronics Corp., 912 F.2d 1443, 1446-47 (Fed. Cir. 1990)		
DX0960	TWM Manufacturing Co., Inc. v. Dura Corp. and Kidde, Inc., 789 F.2d 895 (Fed. Cir. 1986).		
DX0961	U.S.P.T.O. patent assignment 026405/0629, available at <a href="https://assignment.uspto.gov/patent/index.html#/patent/search/resultAssignment?id=26405-629">https://assignment.uspto.gov/patent/index.html#/patent/search/resultAssignment?id=26405-629</a>		
DX0962	VirnetX, Inc. and Science Applications International Corp. v. Cisco Sys., 767 F.3d 1308, 1329 (Fed. Cir. 2014)		
DX0963	Wang Labs., Inc. v. Toshiba Corp., 993 F.2d 858 (Fed. Cir. 1993).		
DX0964	03-02-2011 Option Agreement between Acacia Research Corp. and Samsung Electronics Co	ARC 00001	ARC 00097
DX0965	08-02-2010 Microsoft - Acacia Research Corp. - Amended & Restated Confidential Option Agreement.pdf	ARC0002346	ARC0002488
DX0966	07-13-2001 Carnegie Mellon Memo from M. Wray to T. Eagan Invention Disclosure #97-103	CMU1_001117	CMU1_001123
DX0967	06-13-2000 DSSC Invention Disclosure Form- Jian-Gang Zhu	CMU1_004302	
DX0968	08-20-1998 Email chain between J. Williams and D. Lambeth, re: Return Mail	CMU1_004460	
DX0969	Results from Prior NSF Support: David Lambeth	LAMBETH-000041755	
DX0970	CrMn99_paper1.doc	LAMBETH-000141091	LAMBETH-000141094
DX0971	Bin Lu Spring Review 2000- Stacking Faults in Co-alloy Longitudinal Media	LAMBETH-000141814	LAMBETH-000141828
DX0972	Seagate-CMU HD Media Program: 1996-1997	LAMBETH-000142496	LAMBETH-000142497
DX0973	Email from D. Lambeth to B. Lu Re: How are you!	LAMBETH-000147585	
DX0974	PDT Summary Chart_040519.ppt	SEA00024954	SEA00024978
DX0975	WP Dep+Metrology Overview.ppt	SEA00027888	SEA00027916
DX0976	Firestorm NonSS Design Point Rev A5.doc	SEA00032356	SEA00032357
DX0977	P1_design_point_A.doc	SEA00032631	SEA00032632
DX0978	Firestorm Design Point Rev A3.doc	SEA00041828	SEA00041829
DX0979	Compass design point FW50.doc	SEA00046857	SEA00046859
DX0980	MantaRay Bogart Design Point TNT-SS RevA1.doc	SEA00047975	SEA00047976



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DX0982	Wyatt MRR Trans Design.ppt	SEA00049890	SEA00049933
DX0983	Muskie SS Design Point Oct 30 2009 RevA1.doc	SEA00050370	SEA00050371
DX0984	Blank Message with attachments	SEA00050404	
DX0985	Writer Dictionary-TDT 100624.xls	SEA00050405	
DX0986	Writer Dictionary-TDT 100830.xls	SEA00050406	
DX0987	Writer Dictionary-TDT 100923.xls	SEA00050407	
DX0988	Writer Dictionary-TDT 100928.xls	SEA00050408	
DX0989	Writer Dictionary-TDT 110225.xls	SEA00050409	
DX0990	Writer Dictionary-TDT 101124.xls	SEA00050410	
DX0991	Writer Dictionary-TDT 101025.xls	SEA00050411	
DX0992	YarraBP-Kahuna M8 Design Point 3 (1).pptx	SEA00147470	SEA00147472
DX0993	License_DensePac-Seagate_1999-08-23.pdf	SEA00183913	SEA00183920
DX0994	License_Hitachi-Seagate_2000-06-08.pdf	SEA00183928	SEA00183940
DX0995	License_Hyundai (Maxtor)-Seagate_1998-04-01.pdf	SEA00183941	SEA00183950
DX0996	License_IBM-Seagate_1999-01-20.pdf	SEA00183951	SEA00183972
DX0997	License_IBM-Seagate_2001-12-15.pdf	SEA00183973	SEA00183998
DX0998	License_Integral-Seagate_1998-01-01.pdf	SEA00183999	SEA00184009
DX0999	License_KLA Tencor-Seagate_2003-05-12.pdf	SEA00184010	SEA00184017
DX1000	License_Komag-Seagate_1997-05-01.pdf	SEA00184018	SEA00184027
DX1001	License_Kubota-Akashic-Seagate_1996-01-01.pdf	SEA00184028	SEA00184040
DX1002	License_Lemelson-Seagate_1999-08-07.pdf	SEA00184041	SEA00184050
DX1003	option Agreement between Acacia Research Corp. and Samsung Electronics Co	SEA00184051	SEA00184058
DX1004	License_Maxtor-Seagate_2000-11-22.pdf	SEA00184059	SEA00184066
DX1005	License_Maynard (Microdomain)-Quinta et al_2000-03-07_(settlement).pdf	SEA00184067	SEA00184083
DX1006	License_Micropolis-Seagate_1997-01-01.pdf	SEA00184084	SEA00184095
DX1007	License_Minebea-Seagate_2000-02-29.pdf	SEA00184096	SEA00184108
DX1008	License_NEC-Seagate_2001-10-10.pdf	SEA00184109	SEA00184116
DX1009	License_Nidec-Seagate_2000-04-01.pdf	SEA00184117	SEA00184128
DX1010	License_Pemstar-Seagate_2000-08-27.pdf	SEA00184129	SEA00184132
DX1011	License_Samsung-Seagate_2003-04-01.pdf	SEA00184133	SEA00184142
DX1012	License_Sankyo Seiki-Seagate_1997-07-01.pdf	SEA00184143	SEA00184152
DX1013	License_Seagate-3M_2000-07-01.pdf	SEA00184153	SEA00184167
DX1014	License_Seagate-Encap_2004-09-15.pdf	SEA00184168	SEA00184170
DX1015	License_Seagate-Fujitsu_1996-12-16.pdf	SEA00184171	SEA00184184
DX1016	License_Stanford-Confocal_1996-12-15.pdf	SEA00184185	SEA00184201
DX1017	License_Stanford-Quinta_1998-07-01.pdf	SEA00184202	SEA00184213
DX1018	License_Stanford-Quinta-Seagate_1998-07-01_Amendment.pdf	SEA00184214	SEA00184215
DX1019	License_Veeco-Seagate_2000-02-11.pdf	SEA00184224	SEA00184236
DX1020	License_Western Digital-Seagate_1997-01-01_(draft).pdf	SEA00184237	SEA00184247

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DX1022	License_Yamaha-Seagate_1998-12-07.pdf	SEA00184252	SEA00184261
DX1023	License_Cambrian-Seagate_2001-02-02.pdf	SEA00500892	SEA00500896
DX1024	License_Cohen-Seagate_2001-07-21.pdf	SEA00500897	SEA00500927
DX1025	License_Fujitsu-Seagate_2002-12-16.pdf	SEA00500928	SEA00500942
DX1026	License_Hedgcoth-Seagate_1998-12-04.pdf	SEA00500943	SEA00500952
DX1027	License_III-IVIL-Seagate_2014-12-31 (patent).pdf	SEA00500953	SEA00502076
DX1028	License_III-Seagate_2014-12-31 (strategic buying).pdf	SEA00502077	SEA00502091
DX1029	License_IVIL-Seagate_2014-12-31 (covenant not to sue).pdf	SEA00502092	SEA00502106
DX1030	License_Magsil-MIT-Seagate_2009-07-01.pdf	SEA00502107	SEA00502144
DX1031	License_Minebea-Seagate_2014-01-01.pdf	SEA00502145	SEA00502160
DX1032	License_SAFIA-Seagate_2005-10-25.pdf	SEA00502161	SEA00502199
DX1033	License_SEMCO-Seagate_2012-01-31 (cross).pdf	SEA00502200	SEA00502207
DX1034	License_ThomasBetts-Seagate_1999-12-20.pdf	SEA00502208	SEA00502213
DX1035	License_TDK-Seagate_2013-08-12.pdf	SEA00527049	SEA00527064
DX1036	License_ReadRite-Seagate_1994-12-31.pdf	SEA00527078	SEA00527088
DX1037	Pharaoh_Configuration_Document(1)_rev1.xlsx	SEA00544276	
DX1038	Cameron SBS Design Point RevE.doc	SEA00544287	SEA00544288
DX1039	Sentosa 1.5TB Post SAD Design Point	SEA00544303	
DX1040	Sentosa 1.5Tb post SAD Design Point_Rev C.doc	SEA00544304	SEA00544305
DX1041	Tambora Gen1 Design Point	SEA00544423	
DX1042	Tambora Gen1 Design Point_Rev A.doc	SEA00544424	SEA00544425
DX1043	Tambora Gen1 Design Point_Rev B.doc	SEA00544426	SEA00544427
DX1044	YJ Design Point.doc	SEA00544464	SEA00544465
DX1045	Megalodon BP4.5 Design Point SAD FW1327.doc	SEA00545177	SEA00545178
DX1046	Thunderbolt BP2 Design Point RevA.doc	SEA00546748	SEA00546751
DX1047	Lamarr SBS Design Point rev1.xlsx	SEA00548620	
DX1048	Avenger Design Point	SEA00549819	
DX1049	01_20_2015 v2 Avenger B3L design point.xlsx	SEA00549820	
DX1050	M10P Design Point	SEA00551054	
DX1051	M10P_C8_SF_Config_S	SEA00551055	
DX1052	M10P_C8_SF_Config_SBS_Demand_v4bupload.xls	SEA00551056	
DX1053	M9T Design Point	SEA00552620	
DX1054	M9T_DS_SF_Config_SBS_Demand_upload.xls	SEA00552621	
DX1055	M8BP2 Design Point	SEA00552622	
DX1056	M8BP2_DK_SF_Config_upload.xls	SEA00552623	
DX1057	Tardis BP TD2 Design Point RevA.doc	SEA00552625	SEA00552628
DX1058	Skybolt Gen1 Design Point (H06937).xlsx	SEA00552751	
DX1059	Mobula 2-turn design point	SEA00552762	

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1060	Mobula_2_turn_Design Point_FW1650.doc	SEA00552763	SEA00552770
DX1061	Kestrel KBP3b Design Point RevA_for_requirements_management_portal_SAD_phase_exit.doc	SEA00552944	SEA00552949
DX1062	License_TDK-EPC-Seagate_2011-04-13 (Amendment No. 1 to Supply Agreement).pdf	SEA01043128	SEA01043129
DX1063	License_TDK-Seagate_2004-06-25 (Executive Summary to Supply Agreement).pdf	SEA01043130	SEA01043132
DX1064	License_Toshiba-Seagate_2002-12-19 (patent cross).pdf	SEA01043133	SEA01043147
DX1065	modeling_in_writer_design_March2015.ppt	SEA01158782	SEA01158822
DX1066	NRM TP 1 - FY10 WLS TP Analysis, US EA , Final, Dec 16, 2010.PDF	SEA01387720	
DX1067	NRM TP 2 FY11 WLS TP Analysis, US EA Final - Nov 17, 2011.PDF	SEA01387721	
DX1068	NRM TP 3 FY12 WLS TP Analysis, US EA - Final, Nov 8, 2012.PDF	SEA01387722	
DX1069	NRM TP 4 FY13 WLS TP Analysis, US EA Rtn, Final, 3 Nov 13.PDF	SEA01387723	
DX1070	NRM TP 5 FY14 WLS TP Analysis, US EA Rtn.PDF	SEA01387724	
DX1071	STST TP 2 FY11 WLS TP Analysis, Q4.PDF	SEA01387728	
DX1072	STST TP 3 FY12 WLS TP Analysis, Q4, 3 July 2012.PDF	SEA01387729	
DX1073	STST TP 4 FY13 WLS TP Analysis, Q4.PDF	SEA01387730	
DX1074	STST TP 5 FY14 WLS TP Analysis, Q4.PDF	SEA01387731	
DX1075	STST TP 7 FY16 WLS TP Analysis, Q4, 11 July 2016.PDF	SEA01387733	
DX1076	TP 1A Seagate Tech Ireland FY 11 statutory financial report.PDF	SEA01387734	SEA01387761
DX1077	TP 1B Seagate Tech Ireland FY 12 statutory financial report.PDF	SEA01387762	SEA01387788
DX1078	TP 1C Seagate Tech Ireland FY 13 statutory financial report.PDF	SEA01387789	SEA01387815
DX1079	TP 1D Seagate Tech Ireland FY 14 statutory financial report.PDF	SEA01387816	SEA01387843
DX1080	TP 1E Seagate Tech Ireland FY 15 statutory financial report.PDF	SEA01387844	SEA01387871
DX1081	TP 1G Seagate - FY11 US TP Report, 14 Dec 2011.PDF	SEA01387872	SEA01387961
DX1082	TP 1H Seagate - FY12 US TP Report, 17 Dec 2012.PDF	SEA01387962	SEA01388055
DX1083	TP 1I Seagate - FY13 US TP Report, 18 Dec 2013.PDF	SEA01388056	SEA01388150
DX1084	TP 1J Seagate - FY14 US TP Report, 16 Dec 2014.PDF	SEA01388151	SEA01388296
DX1085	TP 2C Seagate Tech (IR) STST-Penang Seagate In Contract Manufacturing Agreement, 4 July 2015.PDF	SEA01388318	SEA01388328
DX1086	TP 2D Seagate Tech ( IR) STST-Seagate Tech ( Thailand) Ltd Contract Manufacturing Agreement, 4 July 2015.PDF	SEA01388329	SEA01388340
DX1087	Venus design point Rev A.doc	SEA01417777	
DX1088	Xuebing_110118_AnealSummaryandRecommendation.ppt	SEA01675120	SEA01675124
DX1089	External Heads Volume and Pricing History Rev2.XLSX	SEA01912336	
DX1090	Admn FY11Q1.XLS	SEA01912337	
DX1091	Admn FY11Q2.XLS	SEA01912338	
DX1092	Admn FY11Q3.XLS	SEA01912339	
DX1093	Admn FY11Q4.XLS	SEA01912340	
DX1094	Admn FY12Q1.XLS	SEA01912341	
DX1095	Admn FY12Q2.XLS	SEA01912342	
DX1096	Admn FY12Q3.XLS	SEA01912343	
DX1097	Admn FY12Q4.XLS	SEA01912344	

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1098	Admn FY13Q1.XLS	SEA01912345	
DX1099	Admn FY13Q3.XLS	SEA01912347	
DX1100	Admn FY13Q4.XLS	SEA01912348	
DX1101	Admn FY14Q1.XLS	SEA01912349	
DX1102	Admn FY13Q2.XLS	SEA01912346	
DX1103	Admn FY14Q2.XLS	SEA01912350	
DX1104	Admn FY14Q3.XLS	SEA01912351	
DX1105	Admn FY14Q4.XLS	SEA01912352	
DX1106	Admn FY15Q1.XLS	SEA01912353	
DX1107	Admn FY15Q2.XLS	SEA01912354	
DX1108	Admn FY15Q3.XLS	SEA01912355	
DX1109	Admn FY15Q4.XLS	SEA01912356	
DX1110	Admn FY16Q1.XLS	SEA01912357	
DX1111	Admn FY16Q2.XLS	SEA01912358	
DX1112	Admn FY16Q3.XLS	SEA01912359	
DX1113	Admn FY16Q4.XLS	SEA01912360	
DX1114	Form J FY11.XLS	SEA01912361	
DX1115	Form J FY12.XLS	SEA01912362	
DX1116	Form J FY13.XLS	SEA01912363	
DX1117	Form J FY14.XLS	SEA01912364	
DX1118	Form J FY15.XLS	SEA01912365	
DX1119	Form J FY16.XLS	SEA01912366	
DX1120	TOE FY11 thru FY16.XLSX	SEA01912367	
DX1121	Wafer Ships STST_NRM 2010_2016-Rev 4.XLS	SEA01912368	
DX1122	05_27_2014 v1 Valkrie design points.xls	SEA02238126	
DX1123	Cheetah 15k4_design_point rev-A (I4G, PtMn NOL, Canoe).doc	SEA02238130	
DX1124	D8X_SF_Config_SBS	SEA02238132	
DX1125	Lightning_GEN2_MBS_Design_Point_FW1233.doc	SEA02238133	SEA02238134
DX1126	M11P Design Point RevB.docx	SEA02238135	SEA02238146
DX1127	Pharaoh_Configuration_Document(1)_rev1.xlsx	SEA02238149	
DX1128	Tatsu Design_SAD.pptx	SEA02238151	SEA02238161
DX1129	V11_4D_JC_Config_Gen3_Demand_uploadv2.xls	SEA02238163	
DX1130	License_Samsung-Seagate_2012-11-00 (Trademark License Agreement Amendment No. 1).pdf	SEA02238297	SEA02238300
DX1131	Makara GEN1 CU4 H05413 Design Point rev1 FW43.xls	SEA02330523	
DX1132	Index to Documents	SEA02337801	SEA02339754
DX1133	License_Microsoft-Seagate_2013-12-11.pdf	SEA02730374	SEA02730749
DX1134	License_SEMCO-Seagate_2012-01-31 (know how).pdf	SEA02730750	SEA02730834

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1135	Looper MP 81457335_T.PDF	SEA03148729	SEA03148744
DX1136	MOKEM MP 81455503_W.PDF	SEA03148767	SEA03148784
DX1137	Seagate Sales Documents- No Title	SEA03148861	
DX1138	MOKEM_OPR_training_9sep2011.pdf	SEA03148862	SEA03148876
DX1139	R4630_MS1M_BA_MEAS_MOKEM_04.txt	SEA03336123	SEA03336133
DX1140	License_Lambeth-Seagate_1996-10-14 (Nondisclosure Agreement).pdf	SEA03336134	SEA03336134
DX1141	Seagate HDD Sales to Customers.XLSX	SEA03336315	
DX1142	Seagate Springtown FY13 UK TP Report, final 7.25.2017.pdf	SEA03336537	SEA03336690
DX1143	Seagate Tech LLC FY15 TP Benchmarking Analysis Memo - FINAL - 12.18.2015.pdf	SEA03336691	SEA03336767
DX1144	Seagate Technology Ireland FY16 Statutory FS.PDF	SEA03336768	SEA03336803
DX1145	Seagate WLS Ship Summary 2010 to 2017, Barbara Lodes, 2 Feb 2018.xls	SEA03336806	
DX1146	Div 115 Ireland statutory financial report FY03.pdf	SEA03336808	SEA03336823
DX1147	Div 115 Ireland statutory financial report FY04.pdf	SEA03336824	SEA03336842
DX1148	Div 115 Ireland statutory financial report FY05, unsigned.pdf	SEA03336843	SEA03336859
DX1149	Div 115 Ireland statutory financial report FY06.pdf	SEA03336860	SEA03336880
DX1150	US Economic Analysis FY04 WLS P&L.PDF	SEA03336882	
DX1151	US Economic Analysis FY05 WLS P&L.PDF	SEA03336883	
DX1152	Seagate Tech Ireland FY04 WLS Ships, Olivia OConnell, 13 Feb 2018.xlsx	SEA03336885	
DX1153	Seagate Tech Ireland FY05 WLS Ships, Olivia OConnell, 13 Feb 2018.xlsx	SEA03336886	
DX1154	Seagate Technology (Ireland) FY04 TP report.pdf	SEA03336888	SEA03336970
DX1155	Seagate Technology (Ireland) FY07 TP report.pdf	SEA03336971	SEA03337050
DX1156	Seagate Technology USH TP Study FY03.pdf	SEA03337051	SEA03337106
DX1157	Seagate Technology USH TP Study FY04.pdf	SEA03337107	SEA03337161
DX1158	Seagate Technology USH TP Study FY05.pdf	SEA03337162	SEA03337286
DX1159	Seagate Technology USH TP Study FY06.pdf	SEA03337287	SEA03337384
DX1160	07-13-2001 Email from D. Lambeth to P. Swinehart re: MURI call etc.	LAMBETH-000147568	LAMBETH-000147569
DX1161	J. Zou, B. Lu, D.E. Laughlin and D.N. Lambeth, "The Properties Of CoCrPt/CrMn/NiAl And CoCrPt/Cr/NiAl Films," IEEE Transactions on Magnetics, 35(5), 1999, pp. 2661-2663	LAMBETH-000001835	LAMBETH-000001837
DX1162	H. Gong, D. Litvinov, T. J. Klemmer, D. N. Lambeth and J. K. Howard, "Seed Layer Effects On The Magnetoresistive Properties Of NiFe Films," IEEE Transactions on Magnetics, Vol. 36(5). 2963-2965, 2000	LAMBETH-000001853	LAMBETH-000001855
DX1163	H. Gong, B. Lu. D.E. Laughlin and D.N. Lambeth, "New Highly Oriented Soft Magnetic Underlayer Structures For Perpendicular Recording," Journal of Applied Physics, Vol. 87. 6355-6357, 2000	LAMBETH-000155348	LAMBETH-000155351
DX1164	Y-N. Hsu, S. Jeong, D.N. Lambeth and D.E Laughlin, "In Situ Ordering Of FePt Thin Films By Using Ag/Si And Ag/Mn3Si/Ag/Si Templates." IEEE Transactions on Magnetics. Vol. 36(5), 2945-2947, 2000.	LAMBETH-000001850	LAMBETH-000001852
DX1165	D N. Lambeth. "Hard Disk Media Future Problems And Possible Solutions-- Vacuum. Elsevier Science Inc., Vol. 59, p522-530 2000	LAMBETH-000005292	LAMBETH-000005300



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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1166	W. Yang, D.N. Lambeth and D.E. Laughlin, "Dependence Of Co Anisotropy Constants On Temperature, Processing, And Underlayer," Journal of Applied Physics, Vol. 87, 2000, 6884-6886	LAMBETH-000001915	LAMBETH-000001920
DX1167	J. Zou, B. Lu, T. Leonhardt, D.E. Laughlin and D.N. Lambeth, "High Coercivity CoCrPt Films Achieved By Post-Deposition Rapid Thermal Annealing," Journal of Applied Physics, Vol. 87, 2000. 6869-6871	LAMBETH-000155340	LAMBETH-000155343
DX1168	B. Lu, J. Zou, D.N. Lambeth and D.E. Laughlin, "Stacking Faults in Co-Alloy Longitudinal Media." IEEE Transactions on Magnetics, Vol. 36(5), 2357-2359, 2000	LAMBETH-000001847	LAMBETH-000001849
DX1169	B. Bian, W Yang, D.E. Laughlin and D.N. Lambeth, "Stacking Faults And Their Effect On Magnetocrystalline Anisotropy In Co And Co-Alloy Thin Films," IEEE Transactions on Magnetics, Vol. 37, 1456-1458, 2001	LAMBETH-000001856	LAMBETH-000001858
DX1170	J. Zou, B. Bian, DE Laughlin and D.N. Lambeth, "Improving Grain Isolation Of Films Via Grain Boundary Diffusion Of Mn," IEEE Transactions on Magnetics, Vol. 37, 1471-1474, 2001	LAMBETH-000001859	LAMBETH-000001862
DX1171	File History of U.S. Patent 6,248,416		
DX1172	Y-N Hsu D.E. Laughlin and D N Lambeth "Growth Of CoCrTa -Oriented Thin Films On A D03 Mn2(002) Underlayer," Journal of Applied Physics, Vo. 87, 2000, pp. 6698-6700	LAMBETH-000141644	LAMBETH-000141647
DX1173	H. Gong, W. Yang, M. Rao, D.E. Laughlin and D.N. Lambeth, "Epitaxial Growth Of Quad-Crystal Co-Alloy Magnetic Recording Media," IEEE Transactions on Magnetics, Vol. 35 No.5, Sept. 1999, pp.2676-2663	LAMBETH-000001838	LAMBETH-000001840
DX1174	B. Lu, S. Bharathulwar, D.E. Laughlin and D. N. Lambeth. "Time And Orientation Dependence Ordering In Anodized Aluminum For Self-Organized Magnetic Arrays," Journal of Applied Physics, Vol. 87, 4721-4723, 2000	LAMBETH-000001881-	LAMBETH-000001883
DX1175	D. Litvinov, J.K. Howard. S. Khizroex, H Gong, D.N. Lambeth, "Reflection High Energy Electron Diffraction Based Texture Determination: Magnetic Thin Films For Perpendicular Media," Journal of Applied Physics, Vol 87, 2000, pp. 5693-5695	LAMBETH-000155352	LAMBETH-000155355
DX1176	H. Gong, M. Rao, D. E. Laughlin and D. N. Lambeth, "Highly Oriented NiFe Soft Magnetic Films on Si Substrates," Journal of Applied Physics, Vol. 85 (8), April 15, 1999, pp. 5750-5752.	LAMBETH-000155402	LAMBETH-000155404
DX1177	W. Yang, D. N. Lambeth and D.E. Laughlin, "Unicrystal Co-alloy Media on Si(110)," Journal of Applied Physics, Vol. 85 (8), April 15, 1999, pp. 4723-4725	LAMBETH-000155327	LAMBETH-000155329
DX1178	H. Gong, D. E. Laughlin and D. N. Lambeth, "Highly Oriented Perpendicular Co-alloy Media on Si (111) Substrates," Journal of Applied Physics, Vol. 85 (8), April 15, 1999,	LAMBETH-001555396	LAMBETH-000155398
DX1179	B. Lu, S.D. Harkness, W.A. Lewis, D. E. Laughlin, and D. N. Lambeth, "Lattice Parameter Determination of Textured Co8hCr15PtTa4 Films," Proc. MRS Symp. Vol. 562, Materials Research Society, Warrendale, PA, 1999	LAMBETH-000141166	LAMBETH-000141171
DX1180	A.C. Sheila, T. E. Schlesinger, D.N. Lambeth "Modeling Mark Edge Jitter in Phrase-Change Recording," Proc SPIE Vol 4090, p. 116-121; Optical Data Storage Proceedings, 14-17 May 2000. 80-82	SEA03350385	SEA03350387
DX1181	06-24-2016 Seagate Technology (US) Holdings, Inc. and Seagate Technology LLC's Answer to Complaint		
DX1182	09-01-2016 Lambeth's LPR 3.1 Initial Disclosures		
DX1183	09-01-2016 Lambeth's Rule 26(a)(1) Initial Disclosures		
DX1184	02-01-2017 Lambeth's First Supplemental Responses to 1st Set Interrogatories (Nos. 2, 5)		
DX1185	03-10-2017 Lambeth's Supplemental Responses to Seagate's 1st Set of Interrogatories (No. 3)		
DX1186	07-12-2017 Lambeth's Responses to Seagate's Second Set of Interrogatories (Nos. 7-10)		
DX1187	08-21-2017 Lambeth's Responses to Seagate's First Set of RFAs (Nos. 1-255)		
DX1188	09-13-2017 Lambeth's Amended Response to Seagate's 2nd Set of Interrogatories (No. 10)		
DX1189	11-16-2017 Lambeth's Responses to Seagate's 3d Set of Interrogatories (No. 11)		
DX1190	02-28-2018 Lambeth's Supplemental Responses to Seagate's First Set of Interrogatories (Nos. 1, 4)		
DX1191	11-24-2017 Declaration of Dr. David N. Lambeth in Support of Plaintiff Lambeth Magnetic Structures, LLC's Opposition to Seagate's Motion to Compel (Dkt. 96-1)		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1192	09-21-2016 Plaintiff Lambeth Magnetic Structures, LLC's Disclosure of Asserted Claims and Infringement Contentions		
DX1193	09-21-2016 Plaintiff Lambeth Magnetic Structures, LLC's Errata Regarding Disclosure of Asserted Claims and Infringement Contentions		
DX1194	09-21-2016 Plaintiff Lambeth Magnetic Structures, LLC's Disclosure of Asserted Claims and Infringement Contentions - Exhibit A		
DX1195	Compilation Disk of Dr. Clark Report Appendix C, Images and Data Files		
DX1196	Document entitled Broken Symmetry S2MMC.xlsx, containing data underlying Expert Report of Kevin Coffey	LMS-SEA0009277	LMS-SEA0011678
DX1197	Document entitled Broken Symmetry S03PPC.xlsx, containing data underlying Expert Report of Kevin Coffey	LMS-SEA0011679	LMS-SEA0014080
DX1198	Document entitled Broken Symmetry SBR8DK.xlsx, containing data underlying Expert Report of Kevin Coffey	LMS-SEA0014081	LMS-SEA0016482
DX1199	01-18-2008 Mathieu, Inturi, and Hadley, Magnetic Anisotropy Dispersion in FeCo Films (2008)		
DX1200	04-15-1999 T. D. Leonhardt, Y. Chen, M. Rao, D. E. Laughlin, D. N. Lambeth and M. H. Kryder, "CrPt3 Thin Film Media for Perpendicular and Magneto-Optical Recording," Journal of Applied Physics, Vol. 85 (8), April 15, 1999, pp. 4307-4309	LAMBETH-000001162	LAMBETH-000001164
DX1201	02-17-1992 Y. Deng, D. N. Lambeth, D. E. Laughlin, The Effects of Substrate and Bias on CoNiCr/Cr Thin Films (1992)	LAMBETH-000001751	LAMBETH-000001753
DX1202	02-17-1992 Y. C. Feng, D. E. Laughlin, and D. N. Lambeth, Texture of Cr Interlayer in Double CoCrTa Thin Films and Effects of Interlayer on the Magnetic Properties (1992)	LAMBETH-000001763	LAMBETH-000001765
DX1203	Lambeth, et al., Magnetic Media Performance: Control Methods for Crystalline Texture and Orientation, Mat. Res. Soc. Symp. Proc., Vol. 517, 181-92 (1998)	LAMBETH-000001863	LAMBETH-000001874
DX1204	10-01-2000 Issues for Terabit/in <sup>2</sup> Magnetic Data Storage, by David N. Lambeth for Electrical and Computer Engineering Department	LAMBETH-000002986	LAMBETH-000003065
DX1205	10-01-2000 Magnetic Patterns by Optical Interferometry: Courtesy of Professor C. A. Ross, MIT Powerpoint Presentation	LAMBETH-000004422	LAMBETH-000004451
DX1206	08-01-2000 Letter to CMU Parking Office regarding parking ticket	LAMBETH-000004452	
DX1207	07-09-1999 D. E. Laughlin, B. Lu, Y.N. Hsu, J Zou and D. Lambeth, Microstructural and Crystallographic Aspects of Thin Film Recording Media	LAMBETH-000004938	LAMBETH-000004943
DX1208	Letter to Hobokabe San from Dave Lambeth	LAMBETH-000006582	LAMBETH-000006586
DX1209	Notes on Target positions, subst positions, target to subst scale and distance	LAMBETH-000037699	
DX1210	Proposal by Lambeth Systems titled: "Quasi-Single Crystal Soft Magnetic Thin Films"	LAMBETH-000041931	LAMBETH-000041934
DX1211	11-28-2000 Note regarding visit with J. Wolf	LAMBETH-000042641	
DX1212	Phi-Scan Data Notes Taken by B. Lu and D. Lambeth on 4/1	LAMBETH-000046100	
DX1213	09-01-1984 T.C. Arnoldussen, L.M. Rossi, A. Ting, A. Brunsch, J. Schneider, G. Trippel, Obliquely Evaporated Iron-Cobalt and Iron-Cobalt-Chromium Thin Film Recording Media, IEEE Transactions in Magnetism, Vol. 20 No. 5	LAMBETH-000136262	LAMBETH-000136265
DX1214	05-20-1960 D.O. Smith, M.S. Cohen, and G.P. Weiss, Oblique-Incidence Anisotropy in Evaporated Permalloy Films, Journal of Applied Physics, Volume 31, No. 10	LAMBETH-000136548	LAMBETH-000136555
DX1215	01-13-2000 Email from D. Lambeth to "cam@ece.cmu.edu"; CC: D. Lambeth and P. Khosia; Subject: Re: [Fwd: Annual Report]	LAMBETH-000140350	LAMBETH-000140351
DX1216	11-02-1999 Email from D. Lambeth to B. Lu; Subject: K-graph	LAMBETH-000143708	
DX1217	11-03-1999 Email from B. Lu to D. Lambeth; Subject: Re: K-graph	LAMBETH-000143709	
DX1218	11-03-1999 Email from D. Lambeth to B. Lu; Subject: you comments	LAMBETH-000143711	
DX1219	11-04-1999 Email from B. Lu to D. Lambeth; Subject: Re: no attachment (with 9 attachments)	LAMBETH-000143712	LAMBETH-000143857

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1220	11-04-1999 Email from D. Lambeth to B. Lu; Subject: Re: no attachment	LAMBETH-000143859	LAMBETH-000143860
DX1221	11-04-1999 Email from B. Lu to D. Lambeth; Subject: Re: no attachment	LAMBETH-000143863	LAMBETH-000143864
DX1222	11-04-1999 Email from D. Lambeth to B. Lu; Subject: Corrupted file	LAMBETH-000143865	
DX1223	11-04-1999 Email from D. Lambeth to L. Chapin; Subject targets	LAMBETH-000143866	
DX1224	11-04-1999 Email from B. Lu to D. Lambeth; Subject: Re: extra files (with 14 attachments)	LAMBETH-000143868	
DX1225	12-10-1999 Email from D. Lambeth to P. Swinhart; CC: L. Chapin; Subject: Re: Target Arrangement	LAMBETH-000144231	LAMBETH-000144232
DX1226	01-05-2000 Email from D. Lambeth to B. Lu; Subject: Samples	LAMBETH-000144249	
DX1227	01-05-2000 Email from B. Lu to D. Lambeth; Subject: Re: Samples (with 9 attachments)	LAMBETH-000144250	
DX1228	01-09-2000 Note from D. Lambeth to Debbie regarding CMU Leave of Absence Program form (attaching 1/9/2000 Leave of Absence Form)	LAMBETH-000144377	LAMBETH-000144379
DX1229	01-16-2000 Email from B. Lu to D. Lambeth; Subject: Re: Samples (with 21 attachments)	LAMBETH-000144380	LAMBETH-000144686
DX1230	01-16-2000 Email from D. Lambeth to B. Lu; Subject: Re: Samples	LAMBETH-000144687	LAMBETH-000144688
DX1231	01-20-2000 Email from B. Lu to D. Lambeth; Subject: Re: Samples (attachments: Prof-Lambeth-O.doc; Prof-Lambeth-PR.doc; Untitled attachment 00922.txt)	LAMBETH-000144689	LAMBETH-000144695
DX1232	01-22-2000 Email from B. Lu to D. Lambeth; Subject: Re: Samples (with 23 attachments)	LAMBETH-000144696	LAMBETH-000145031
DX1233	02-09-2000 Email from D. Lambeth to B. Lu; Subject Phi-scan	LAMBETH-000145034	
DX1234	03-06-2000 Email from B. Lu to "jwdv@andrew.cmu.edu"; CC: D. Lambeth; Subject: XRD Phi-scan	LAMBETH-000145043	
DX1235	03-06-2000 Email from D. Lambeth to B. Lu; Subject: Re: SXRD Phi-scan	LAMBETH-000145044	
DX1236	03-24-2000 Email from D. Lambeth to B. Lu; CC: J. Wolf; Subject: Re: XRD Phi-scan	LAMBETH-000145047	
DX1237	10-13-2000 Meeting notes of D. Lambeth	LAMBETH-000147441	LAMBETH-000147447
DX1238	05-18-2001 Email from D. Lambeth to J. Wolf; Subject: Re: One Pole Figure done	LAMBETH-000147559	
DX1239	10-28-1999 Email from D. Lambeth to J. Lindermuth; CC: L. Chapin and P. Swinhart; Subject: VSM Availability	LAMBETH-000148083	
DX1240	01-10-2000 Email P. Swinehart to D. Lambeth; Subject: Next Visit	LAMBETH-000148158	
DX1241	03-24-2000 Email P. Swinehart to D. Lambeth; Subject: Canceled Visit	LAMBETH-000148227	
DX1242	03-03-2000 Email from D. Lambeth to L. Chapin, P. Swinehart; Subject: Next week prep	LAMBETH-000148236	
DX1243	07-06-2000 Email from D. Lambeth to P. Swinehart; Subject: Re: Visit 7/10	LAMBETH-000148245	
DX1244	08-22-2000 Email from D. Lambeth to L. Chapin; Subject: Re:	LAMBETH-000148259	
DX1245	09-20-2000 Email from D. Lambeth to P. Swinehart; CC: L. Chapin; Subject: Re: Next LS Visit	LAMBETH-000148422	
DX1246	09-27-2000 Email from D. Lambeth to B. Dodrill; CC: P. Swinehart, J. Lindermuth; J. Krause, V. Wang; Subject: Re: Lambeth Next LS visit and plans	LAMBETH-000148425	LAMBETH-000148426
DX1247	09-28-2000 Email from D. Lambeth to B. Dodrill; CC: P. Swinehart, J. Lindermuth; J. Krause, V. Wang; Subject: Re: Lambeth Next LS visit and plans	LAMBETH-000148435	LAMBETH-000148437
DX1248	01-22-2001 Letter from D. Lambeth to C. Ross in Dept. of Material Science and Engineering at MIT, Re: HA-08	LAMBETH-000148477	LAMBETH-000148478

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1249	03-21-2001 Email from D. Lambeth to P. Swinehart; CC: L. Chapin; Subject: visit schedule	LAMBETH-000148679	
DX1250	04-16-2001 Email from D. Lambeth to L. Chapin; CC: P. Swinehart; Subject: Si wafers cuts	LAMBETH-000148886	LAMBETH-000418888
DX1251	04-17-2001 Email from D. Lambeth to J. Lindermuth; CC: P. Swinehart, J. Krause; Subject: Re: VSM Availability	LAMBETH-000148891	
DX1252	04-20-2001 Email from D. Lambeth to L. Chapin; CC: P. Swinehart; Subject: Target positions	LAMBETH-000148892	LAMBETH-000418894
DX1253	11-13-2000 Email from D. Lambeth to J. Wolf; Subject: Good news: 7.473 degrees is correct	LAMBETH-000154509	LAMBETH-000154510
DX1254	09-06-2001 Email from D. Lambeth to J. Wolf; CC: L. Chapin; Subject: Si orientation (attachments Si111_orientation.PDF, Si_flats.pdf)	LAMBETH-000154583	
DX1255	12-10-1999 Carnegie Mellon Technology Transfer- Intellectual Property Policy	LAMBETH-000212754	LAMBETH-000212763
DX1256	02-08-1997 Letter to Mark Kryder from D. Lambeth, CC: C. Porto, R. White, D. Laughlin; Subject Magnetic Media Structure to Overcome the Thermal Stability Limits	LAMBETH-000222133	LAMBETH-000222143
DX1257	Draft Project Proposal to ATP/NIST	LAMBETH-000222206	LAMBETH-000222210
DX1258	02-16-2010 Email from D. Lambeth to D. Lee; Subject: Re: FW: Additional Tax Literature-- Link =====> <a href="http://www.aicpa.org/pubs/taxadv/online/jul2003/clinic8.htm">http://www.aicpa.org/pubs/taxadv/online/jul2003/clinic8.htm</a>	LAMBETH-000224715	LAMBETH-000224717
DX1259	10-16-2010 Email from D. lambeth to D. Lee; Subject: EU Extra LS USPTO 7,128,977- CONFIDENTIAL via NDA- WORK PRODUCT IN ANTICIPATION OF LITIGATION (with 2 attachments)	LAMBETH-000225526	
DX1260	12-15-1999 G. Gubbiotti, L. Albin, D. Tacchi, G. Carlotti, R. Gunnella and M. De Crescenzi, Structural and Magnetic Properties of Epitaxial Cu/Fe/Cu/Si(111) Ultrathin Films	LAMBETH-000225533	LAMBETH-000225544
DX1261	11-21-2010 Email from D. Lambeth to P. Mitchell; S. Wong; Subject: Twins: CONFIDENTIAL-SUBJECT TO NDA- COMMON INTEREST WORK PRODUCT IN ANTICIPATION OF LITIGATION (attachments Structure of Metals by Barrett and Massalski Twinning AB19.pdf; 110 Twins DNL AB20.pdf)	LAMBETH-000232051	
DX1262	12-18-2010 Email from D. Lambeth to B. Rinaldi and P. Mitchell; Subject: TEM Books and reference materials	LAMBETH-000232504	
DX1263	01-11-2011 Email from D. Lambeth to P. Mitchell; Subject: RE[4]: Gen 1 SS Gatan DM3 files	LAMBETH-000232738	LAMBETH-000232739
DX1264	01-12-2011 Email from D. Lambeth to P. Mitchell and B. Rinaldi; CC: T. Nuhfer; Subject: Re[6]: Gen 1 SS Gatan DM3 files	LAMBETH-000232753	LAMBETH-000232755
DX1265	01-20-2011 Email from D. Lambeth to B. Rinaldi; CC: P. Mitchell; Subject: Re[2]: SS and TDK head patent	LAMBETH-000232806	
DX1266	02-07-2011 Email from D. Lambeth to B. Rinaldi, S. Wong, P. Mitchell; Subject: SS gen 5 claim chart (attachments Table A B207.pdf, Table A B207.doc)	LAMBETH-000232852	
DX1267	02-23-2011 Email from D. Lambeth to B. Rinaldi and P. Mitchell; Subject: TEM CS Diffraction Patterns	LAMBETH-000232909	
DX1268	02-26-2011 Email from D. Lambeth to P. Mitchell; CC: B. Rinaldi and S. Wong; Subject: SBS White Paper - PARTIAL DRAFT-	LAMBETH-000232914	
DX1269	04-01-2011 Letter from D. Lambeth to P. Mitchell at Acacia Technologies with attached invoice and support for consulting services in January 2011	LAMBETH-000232938	LAMBETH-000232942
DX1270	04-01-2011 Letter from D. Lambeth to P. Mitchell at Acacia Technologies with attached invoice and support for consulting services in February 2011	LAMBETH-000232944	LAMBETH-000232945
DX1271	04-01-2011 Letter from D. Lambeth to P. Mitchell at Acacia Technologies with attached invoice and support for consulting services in March 2011	LAMBETH-000232947	LAMBETH-000232954
DX1272	04-26-2011 Email from D. Lambeth to P. Mitchell; CC: M. Ronnie and S. Wong; Subject: SBS Acacia Consulting Invoices	LAMBETH-000232994	
DX1273	05-09-2011 Letter from D. Lambeth to P. Mitchell at Acacia Technologies with attached invoice and support for consulting services in April 2011	LAMBETH-000233010	LAMBETH-000233011
DX1274	01-09-2008 [REDACTED] & TPL/WA Update MRR Brinks, Casey, Crockett, Bronco" Presentation by Kevin Heim	SEA00027948	SEA00027995

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1275	12-14-2016 "WP CTQs and Next Generation WP Tool Needs" by Venkat Inturi and others	SEA00514761	SEA00514795
DX1276	V. Inturi, H. Yin, M. Kief, M. Hadley, and C. Mathieu, Practical FeCo Films for Perpendicular Writer Pole, TMRC, Minneapolis, 2011	SEA01134746	SEA01134750
DX1277	"EAW Update", Presentation by Y. Liu, S. Franzen, K. Heim	SEA01432520	SEA01432542
DX1278	08-29-2008 "TDFW: Sampling of 2R Baseline Wafers (DVT#8-166)", Presentation by Y. Liu and N.C.	SEA01466824	SEA01466841
DX1279	"EAW Spec Guidelines", Presentation by Y. Liu, S. Franzen, C. Chang	SEA01490376	SEA01490384
DX1280	05-27-2009 "Pharaoh EAW Evaluation", Presentation by M. Davis, K. Benson, S. Franzen, Y. Liu	SEA01498970	SEA01498985
DX1281	07-17-2009 "Pharaoh EAW Update", Presentation by J. Nathe, K. Benson, Y. Liu, K. Heim, D. Jensen, S. Franzen, A. Liu etc	SEA01503750	SEA01503774
DX1282	09-08-2009 "EAW Executive Update", EAW Task Team*	SEA01510276	SEA01510301
DX1283	12-19-2016 "WP materials for EAW (TTM meeting)" V. Inturi and K. Heim	SEA01551323	SEA01551347
DX1284	"Magnetism: Section 3, Topics" by M. T. Kief, Seagate Technology	SEA02020865	SEA02020934
DX1285	Presentation "200mm WP_VD Tool Selection" by Matt Hadley	SEA02382481	SDEA02382507
DX1286	"Things that I am involved with" Presentation- Seagate Confidential	SEA02530958	SEA02530986
DX1287	05-21-2007 "High Magnetic Saturation Poles for Advanced Perpendicular Writers" M. T. Kief, V. Inturi, M. Benakli, I. Tabakovic, M. Sun, O. Heinonen, S. Riemer, and V. Vas'ko	SEA02549816	SEA02549848
DX1288	"iZA Next generation writer tool (eCAR presentation)" V. Inturi, W. Tian, J. Mundenar, J. Price and many others	SEA02558597	SEA02558647
DX1289	01-10-2019 PCMag, The Best of CES 2019 ( <a href="https://www.pcmag.com/news/the-best-of-ces-2019">https://www.pcmag.com/news/the-best-of-ces-2019</a> )		
DX1290	01-07-2019 Seagate Levels up Data Creation at CES with Storage Solutions to Fit Any Digital Life ( <a href="https://www.businesswire.com/news/home/20190107005066/en/Seagate-Levels-Data-Creation-CES-Storage-Solutions">https://www.businesswire.com/news/home/20190107005066/en/Seagate-Levels-Data-Creation-CES-Storage-Solutions</a> )		
DX1291	11-30-2018 Winners at Minnesota High Tech Association 2018 Tekne Awards Demonstrate Scope of Innovation Econ ( <a href="https://www.tekneawards.org/news/winners-2018-tekne-awards">https://www.tekneawards.org/news/winners-2018-tekne-awards</a> )		
DX1292	06-04-2018 European Hardware Awards 2018 - Winners Announced ( <a href="https://www.eha.digital/awards/european-hardware-awards-2018-winners-announced/">https://www.eha.digital/awards/european-hardware-awards-2018-winners-announced/</a> )		
DX1293	0/0/2018 Clarivate Analytics, Top 100 Global Innovators Report 2017 ( <a href="http://yaskawa.co.il/wp-content/uploads/2016/05/Clarivate-Analytics-2017-Top-100-Global-Innovators-ilovepdf-compressed.pdf">http://yaskawa.co.il/wp-content/uploads/2016/05/Clarivate-Analytics-2017-Top-100-Global-Innovators-ilovepdf-compressed.pdf</a> )		
DX1294	0/0/2017 The Storage Awards 2017 Winners ( <a href="http://www.storagemagazine.co.uk/storageawards/index.php?page=winners2017">http://www.storagemagazine.co.uk/storageawards/index.php?page=winners2017</a> )		
DX1295	12-07-2017 Harvard Business Review Names Seagate's Steve Luczo One of the Best Performing CEOs in the World ( <a href="https://www.seagate.com/news/news-archive/steve-luczo-best-performing-ceos-in-the-world-pr-master/">https://www.seagate.com/news/news-archive/steve-luczo-best-performing-ceos-in-the-world-pr-master/</a> )		
DX1296	12-07-2017 Harvard Business Review Names Seagate's Steve Luczo One of the Best Performing CEOs in the World ( <a href="https://www.businesswire.com/news/home/20171207005201/en/Harvard-Business-Review-Names-Seagate%E2%80%99s-Steve-Luczo">https://www.businesswire.com/news/home/20171207005201/en/Harvard-Business-Review-Names-Seagate%E2%80%99s-Steve-Luczo</a> )		
DX1297	11-10-2014 Seagate Named a Thomson Reuters 2014 Top 100 Global Innovator ( <a href="https://www.seagate.com/news/news-archive/seagate-named-a-thomson-reuters-master-pr/">https://www.seagate.com/news/news-archive/seagate-named-a-thomson-reuters-master-pr/</a> )		
DX1298	01-09-2006 Seagate Named 2006 Company of the Year by Forbes Magazine ( <a href="https://www.seagate.com/news/news-archive/seagate-named-2006-company-of-the-Year-by-forbes-magazine-master-pr/">https://www.seagate.com/news/news-archive/seagate-named-2006-company-of-the-Year-by-forbes-magazine-master-pr/</a> )		
DX1299	01-09-2006 Seagate Named 2006 Company of the Year by Forbes Magazine		
DX1300	The Data Storage Systems Center	CMU_000317	CMU_000618



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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1301	09-30-1999 Email from D. Lambeth to P. Swinehart re: Consultancy, Confidentiality, and Facilities Use Agreement (and attachment)	LAMBETH-000143693	LAMBETH-000143698
DX1302	Proposal by Lambeth Systems titled: "Quasi-Single Crystal Soft Magnetic Thin Films"	Lambeth-000041927	Lambeth-000041930
DX1303	02-29-2000 Invention Disclosure	CMU1_003387	CMU1_003411
DX1304	04-29-1997 Memo from J. Anderson and B. White to D. Lambeth re: Tenured Faculty Review	CMU1_002734	CMU1_002734
DX1305	07-23-2001 Memo from M. Wray to T. Eagan re: Invention Disclosure # 97-103	CMU1_001117	CMU1_001123
DX1306	05-30-1997 Disclosure of Invention	CMU1_001506	CMU1_001510
DX1307	06-19-1997 Memo from Casey to M. Benno re: Decision Package for 97-103, 97-104, 97-105, 97-106, 97-107	CMU1_001515	CMU1_001516
DX1308	07-26-1997 Memo from M. Kryder to C. Porto re: Evaluation of Disclosures 97-103, 97-104, 97-105, 97-106, 97-107	CMU1_001518	CMU1_001519
DX1309	09-22-1997 Email from M. Kryder to cp3t@andrew.cmu.edu re: Disclosures 97-103 to 97-107 by Dave Lambeth, et al.	CMU1_001520	CMU1_001520
DX1310	08-12-1999 Email from P. Khosla to P. Christiano re: Leave of Absense for David Lambeth	CMU1_002549	CMU1_002549
DX1311	Seagate Technology Lifetime Giving Spreadsheet	CMU1_003935	CMU1_003940
DX1312	DSSC - Invention Disclosures	CMU1_004255	CMU1_004255
DX1313	DSSC - Issued Patents	CMU1_004277	CMU1_004277
DX1314	M. Ohring, Materials Science of Thin Films Deposition and Structure (2nd Edition), Academic Press (excerpts)		
DX1315	Biologically Driven Self Ordered Magnetic Arrays	LAMBETH-000006040	LAMBETH-000006056
DX1316	Magnetic Data Storage Density: How Can it Continue to Grow?	LAMBETH-000153622	LAMBETH-000153692
DX1317	Image of 1425 Samples in Lab	LAMBETH-000041653	LAMBETH-000041653
DX1318	Thin-Film Deposition Principles and Practice, Donald L. Smith	LAMBETH-000140009	LAMBETH-000140016
DX1319	11-09-1999 Email from D. Lambeth to B. Lu Re: Sample 11-05	LAMBETH-000144083	LAMBETH-000144084
DX1320	03-30-2000 Email from D. Lambeth to B. Lu Re: Have you followed Seagate news lately?	LAMBETH-000145054	LAMBETH-000145054
DX1321	07-06-2000 Email from D. Lambeth to P. Swinehart Re: Visit 7/10	LAMBETH-000148246	LAMBETH-000148246
DX1322	Chapter 2 Experiment	LAMBETH-000210904	LAMBETH-000210930
DX1323	02-10-2011 Email from D. Lambeth to B. Rinaldi Re: Priority & Fund for Equipment	LAMBETH-000232861	LAMBETH-000232861
DX1324	Microstructural and Crystallographic Aspects of Thin Film Recording Media (Data Storage Systems Center CMU)	LAMBETH-000140149	LAMBETH-000140197
DX1325	D. Lambeth - Data Storage System Center Presentation	LAMBETH-000151864	LAMBETH-000151884
DX1326	Letter to "Phil"	LAMBETH-000222127	LAMBETH-000222128
DX1327	11-21-2010 Email from D. Lambeth to P. Mitchell and S. Wong Re: Twins: CONFIDENTIAL-SUBJECT TO NDA - COMMON INTEREST WORK PRODUCT IN ANTICIPATION OF LITIGATION	LAMBETH-000232051	LAMBETH-000232051
DX1328	Visualization of Two Vairiants Forming Twins in the (110) Plane	LAMBETH-000232053	LAMBETH-000232057
DX1329	03-08-2014 Amended and Restated Operating Agreement of Lambeth Magnetic Structures, LLC	LAMBETH-000150152	LAMBETH-000150188
DX1330	Physical Exhibit – Sample Seagate hard disk drive		
DX1331	Physical Exhibit – Sample Seagate hard disk drive		
DX1332	Physical Exhibit – Sample Seagate hard disk drive		

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DEFENDANTS EXHIBIT NO.	DESCRIPTION	Bates Begin	Bates End
DX1333	Physical Exhibit – Sample Seagate hard disk drive		
DX1334	Physical Exhibit – Sample Seagate hard disk drive		
DX1335	Physical Exhibit – Sample Seagate hard disk drive component		
DX1336	Physical Exhibit – Sample Seagate hard disk drive component		
DX1337	Physical Exhibit – Sample Seagate hard disk drive component		
DX1338	Physical Exhibit – Sample Seagate hard disk drive component		
DX1339	Physical Exhibit – Sample Seagate hard disk drive component		
DX1340	Physical Exhibit – Sample Seagate wafer		